

Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

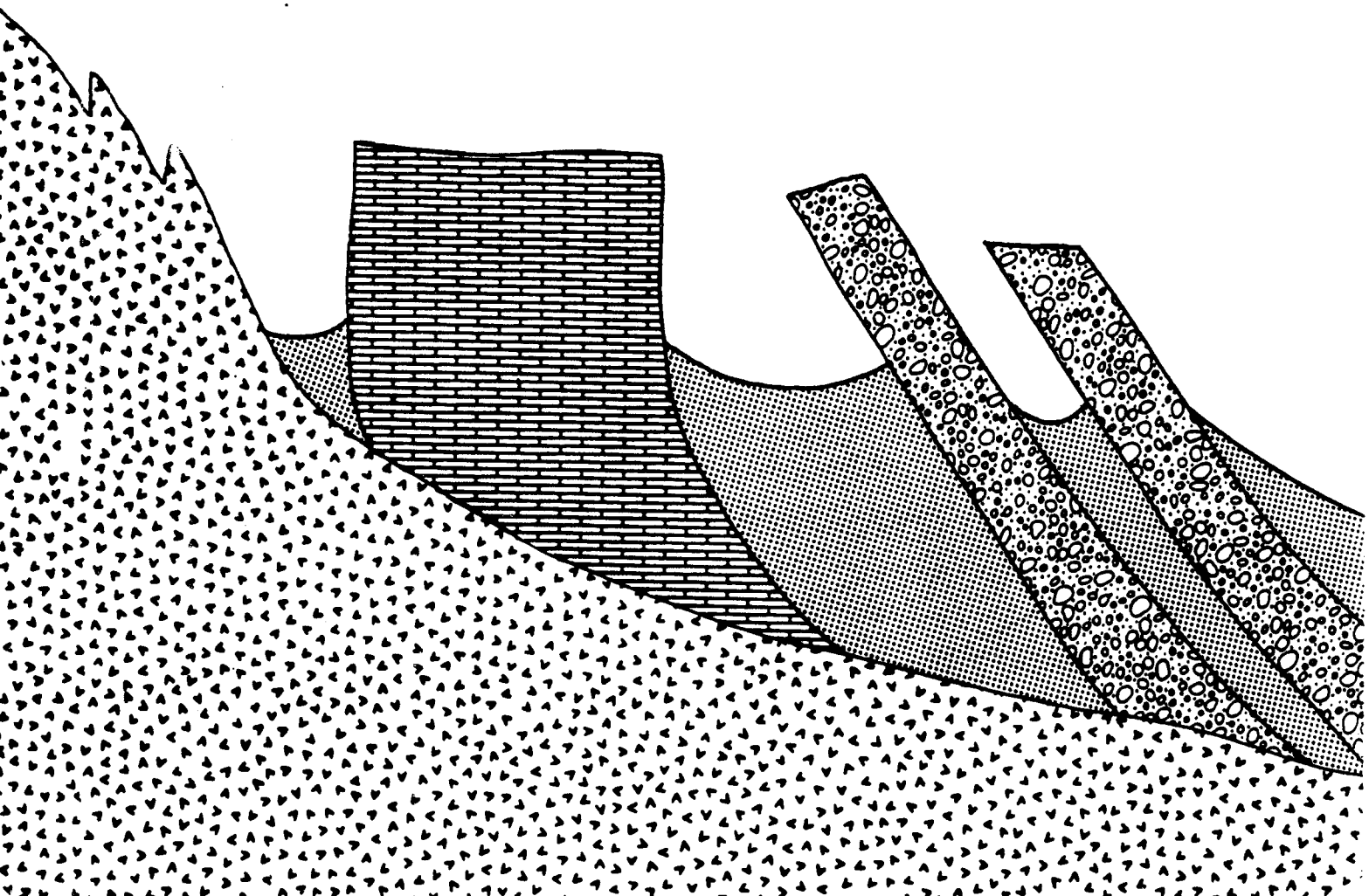
Reserve
aSD428
.B5C37
1984

PAHA SAPA

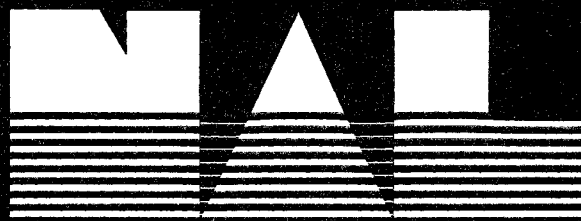
A Cultural Resource Overview of the Black Hills National Forest , South Dakota and Wyoming

E. Steve Cassells, David B. Miller and Paul V. Miller

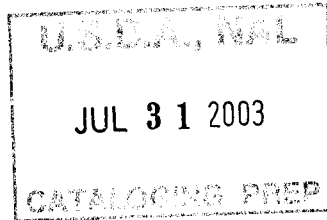
1984



**United States
Department of
Agriculture**



National Agricultural Library



PAHA SAPA

A Cultural Resource Overview of
the Black Hills National Forest,
South Dakota and Wyoming

E. Steve Cassells, David B. Miller and Paul V. Miller
Plano Archaeological Consultants
1048 Purdue Drive
Longmont, CO 80501
(303) 651-3789

Contract No: 53-67T0-3-90

Prepared under contract
between
Plano Archaeological Consultants and U.S. Forest Service

United States Department of Agriculture
Forest Service
Black Hills National Forest
Custer, South Dakota 57730

TABLE OF CONTENTS

Acknowledgements	i
CHAPTER 1 - Introduction	1
The Black Hills National Forest	1
The Cultural Resource Overview	2
The Compilers' Fields of Experience	4
CHAPTER 2 - The Environmental Setting	5
Geology	5
Topography	8
Climate	11
Plant and Animal Life	12
CHAPTER 3 - Prehistory: A General Overview	18
Entrance into the New World	18
The Paleo-Indians	20
The Archaic	27
The Post-Archaic	33
CHAPTER 4 - Prehistoric Data from the Forest	49
Introduction	49
Paleo-Indians	50
Early Archaic	54
Middle Archaic	55
Late Archaic	61
Late Prehistoric	62
Raw Lithic Materials and Sources	67
Black Hills Rock Art	69
Professionals and Paraprofessionals	78
Site Density on the Ranger Districts ...	82
Summary	88
CHAPTER 5 - Management Recommendations: Prehistoric Sites	89
CHAPTER 6 - Ethnohistory	92
Introduction	92
Arikara	92
Mandan and Hidatsa	94
Cheyenne	97
Teton Dakota	100
CHAPTER 7 - Modern Native Americans and the Black Hills	108
Early Documented Use	108
The Black Hills as a Sacred Locale	108
Yellow Thunder Camp	114
Summary	118
CHAPTER 8 - Management Recommendations: Sacred Sites ..	119

CHAPTER 9 - History: A General Overview	121
Early Exploration	121
Lewis and Clark	124
Early Wyoming Approaches to the Hills ..	124
The Astorians	124
The Fur Trade of the 1820's	127
Diplomatic Acquisition of Territory	
Including the Black Hills	135
Indian Relations and Treaties	142
Forts and Indians	173
Wyoming and South Dakota State Recognition	181
Expeditions, Gold Discovery and Mining ..	186
Pioneer Black Hills Communities	204
Black Hills Mines	225
Transportation and Communication	243
Farming and Ranching	271
Local and Government	276
Federal Activities in the Black Hills ..	277
Timber and Logging in the Black Hills ..	279
The Civilian Conservation Corps	298
Tourism	307
Post-World War II Renewed Mining	321
Post-World War II Forest Policy and	
Tourism	322
CHAPTER 10 -Historic Data from the Forest	328
Introduction	328
Black Hills Exploration	328
Indian-Anglo Conflict	328
Transportation and Communication	329
Mining	331
Flumes	337
Ghost Towns	338
Homesteading, Farming and Ranching	338
Timber and Logging	340
Tourism and Recreation	341
Federal Policy and the Development of	
Black Hills National Forest	342
CHAPTER 11 -Management Recommendations for Black Hills	
National Forest Historic Resources	344
Introduction	344
Early Exploration	344
Transportation and Communication	345
Mining	345
Flumes	346
Homesteading, Farming and Ranching	347
Timber and Logging	347
The Development of the Black Hills	
National Forest	347
CHAPTER 12 -Future Directions	349
Introduction	349
Ten Sites Selected for Public Education	
and Appreciation	349
Future Directions for Research	351

CHAPTER 13 -Summary	354
References Cited	355
Appendix I: Catalog of Historic and Prehistoric sites on the Black Hills National Forest	413

TABLES

4-1: Survey Averages Summary	81
4-2 through 4-8: Summaries of Cultural Resource Surveys by Ranger District	83-86
6-1: Glottochronology of Selected Siouan Languages	96
6-2: Initial Contact and Horse Acquisition	99
6-3: Sioux Nation Council Fires	106
9-1: Black Hills Railroads and Routes	260-61

FIGURES

1-1: The Black Hills National Forest	1
2-1: The Black Hills	5
2-2: Simplified Geological Map	6
2-3: General Outcrop Section	7
2-4: Granite Outcrops	8
2-5: The Limestone Plateau	9
2-6: The Red Valley	9
2-7: The Minnekahta Plains	10
2-8: Bear Butte	11
2-9: The Southern Black Hills	12
2-10: Rocky Mountain and Northern Coniferous Forests ..	13
2-11: The Southern Black Hills	14
2-12: Bison	15
2-13: The Hot Springs Mammoth Site	16

FIGURES (cont.)

3-1: New World Migration Routes	19
3-2: Clovis Points	21
3-3: The Lange/Ferguson Site	22
3-4: A Mammoth Hunt	23
3-5: A Folsom Point	24
3-6: Agate Basin and Hell Gap Points	25
3-7: The Agate Basin Site	25
3-8: Eden, Scottsbluff, Alberta Points and Cody Knife ..	26
3-9: A James Allen Point	27
3-10: Paleo-Indian Site Map	27
3-11: Archaic Hunting	29
3-12: Altithermal Correlations	30
3-13: The Hawken Site	31
3-14: A Hawken Site Projectile Point	31
3-15: McKean Complex Projectile Points	32
3-16: Besant And Pelican Lake Projectile Points	32
3-17: Middle Missouri Traditions	34
3-18: Woodland Complex Map	36
3-19: Artifacts From Stevens Rockshelter	37
3-20: Smiley-Evans Pottery	39
3-21: Smiley-Evans Projectile Point	39
3-22: Phelps Site Pottery	40
3-23: Post-Woodland Complex Map	41
3-24: Woodland And Plains Village Site Map	42
3-25: Vore Buffalo Jump And Drive Lane	44
3-26: The Vore Site	45
3-27: Bison Carcasses At The Vore Site	46

FIGURES (cont.)

3-28: Vore Site Projectile Points	46
3-29: Prehistoric Cultural Evolution Chart	47
4-1: Alberta Point, Trail Draw Site	51
4-2: Angostura Point, Long Site	52
4-3: Plano Point, Twin Sisters Site	52
4-4: Lovell Constricted Points, Andoni Site	53
4-5: Rounded Stem Point	53
4-6: The Twin Sisters Site	56
4-7: The Twin Sisters Site Plan Map	57
4-8: Artifacts, Twin Sisters Site	58
4-9: Hanna And Duncan Points, George Hey Site	59
4-10: Late Archaic Projectile Points	62
4-11: 39FA392, Stone Circle	63
4-12: Burned Log, 39FA392	64
4-13: Excavations, 39FA392	64
4-14: Projectile Point, 39FA398	65
4-15: Major Lithic Sources	67
4-16: Rock Art Sequences	71
4-17: Pecked Realistic Rock Art Style	73
4-18: Pecked Geometric Rock Art Style	74
4-19: Pecked Abstract Rock Art Style	74
4-20: Incised and Abraded Rock Art Style	75
4-21: Triangular-Vertical Series Rock Art Style	76
4-22: Solid Painted Realistic Rock Art Style	77
4-23: Vandalism To Rock Art	78
4-24: Prehistoric Site Map	79

FIGURES (cont.)

4-25: Survey Graphs	80
6-1: Proposed Indian Migrations	93
6-2: Indian Territories ca. 1780	95
6-3: Some Migrations, 1700 - 1833	98
6-4: Indian Land Holdings 1850	101
6-5: Proto-Siouan Language Subgroupings	104
6-6: Sioux Migrations	105
6-7: Corbusier Winter Count	106
7-1: 1874 Elk Antler Pile	110
7-2: Sweatlodge, Bear Butte	112
7-3: Yellow Thunder Camp	114
7-4: Black Hills Sacred Sites	117
9-1: Early Explorers' Routes	125
9-2: Early Fur Trapper	128
9-3: Early Fur Trade Routes	129
9-4: Jed Smith And Grizzly Bear	132
9-5: South Dakota Fur Trade Posts	134
9-6: The Louisiana Purchase	138
9-7: The United States, 1822	141
9-8: 1851 Treaty Land	146
9-9: The Bozeman Trail	148
9-10: Red Cloud	151
9-11: 1868 Treaty Land	154
9-12: Gen. Sherman And Sioux, Fort Laramie, 1868	155
9-13: 1868 Treaty Council	156
9-14: Big Horn Campaign, 1876	162

FIGURES (cont.)

9-15: Little Big Horn Battle	163
9-16: Crook's Column Route, Slim Buttes	164
9-17: Dull Knife And Little Wolf Routes	174
9-18: Fort Meade Building (SDARC)	176
9-19: Seventh Cavalry	178
9-20: South Dakota Military Forts	180
9-21: 1861 Dakota Territory	182
9-22: Montana, Wyoming and Dakota Territories	185
9-23: Warren and Reynolds Expeditions	188
9-24: Custer Expedition	192
9-25: Custer Wagons, Castle Creek	193
9-26: Custer And Grizzly Bear	195
9-27: Gold Rush Migrations	203
9-28: Black Hills Placer Mining	206
9-29: Black Hills Gold Mining Stages	208
9-30: Golden Reward Smelter	211
9-31: Black Hills Communities	212
9-32: Black Hills Mine Shaft	213
9-33: Black Hills Population Changes By Town	216
9-34: Pennington County Settlement Types	219
9-35: Lawrence County Settlement Types	220
9-36: Custer County Settlement Types	221
9-37: Black Hills Settlements	222
9-38: Lawrence County Mining Districts	226

FIGURES (cont.)

9-39: Gold And Silver Production	227
9-40: The <u>J.B. Haggin</u>	230
9-41: Growth Of The Homestake	231
9-42: The Homestake Mine	232
9-43: The Standby Mill	233
9-44: The Standby Mill	234
9-45: Flywheels, Standby Mill	235
9-46: The Cochran Mill	235
9-47: Lawrence County Gold Mines	236
9-48: Lawrence County Mine Companies And Lands	237
9-49: The Golden Reward Mill	238
9-50: The Etta Tin Smelter	239
9-51: The Hill City Tin Mill	240
9-52: The Dakota-Calumet Shaft House	241
9-53: Oreville Beryllium Mill	242
9-54: Black Hills Ox Team	245
9-55: Cheyenne - Deadwood Stage Routes	247
9-56: Sidney - Deadwood Trail	249
9-57: Sidney - Deadwood And Cheyenne - Deadwood Trails .	250
9-58: Ft. Pierre - Deadwood Trail	251
9-59: Bismarck Trail	252
9-60: Medora Route	253
9-61: Montana Trails	254
9-62: Routes In The Hills	255
9-63: Rail Routes In The Hills	262

FIGURES (cont.)

9-64: Three-Rail Tracks	264
9-65: Motor Car On The Crouch Line	266
9-66: Locomotive # 55, Crouch Line	267
9-67: The Black Hills Central, Keystone	269
9-68: Pactola Dam Under Construction	275
9-69: Early Logging With Horses	280
9-70: Homestake's Spearfish Sawmill	283
9-71: The Lamphere-Henrichs Lumber Co., R.R.	285
9-72: Logging Railroad Wreck	286
9-73: Warren-Lamb Lumber Co. Mill	287
9-74: 1898 Sawmill Locations	288
9-75: 1924 Sawmill Locations	289
9-76: 1942 Sawmill Locations	290
9-77: Small Black Hills Sawmill	293
9-78: Logging With Trucks	296
9-79: Black Hills C.C.C. Camps	300
9-80: Camp Custer	302
9-81: Camp Custer Plan Map	303
9-82: Railroad Promotion	308
9-83: Sylvan Lake Hotel	309
9-84: Evans Hotel	310
9-85: Evans Plunge	310
9-86: Spearfish Falls	311
9-87: Wind Cave Promotion	312
9-88: Gutzon Borglum And Mt. Rushmore	319
9-89: Mount Rushmore	320

FIGURES (cont.)

10-1: Victoria Creek Palisades	330
10-2: Lincoln Fracture Fraction Mine	333
10-3: Cochran House, Myersville	334
10-4: Alta-Lodi Mill	334
10-5: Lookout Mill	335
10-6: Spokane Mill	335
10-7: Spokane	336
10-8: Foundation, 39CU441	338
10-9: Fireplace, 48CK460	339
10-10: Tin Cans, 39PN452	341
10-11: Onyx Cave	341
10-12: Historic Sites In The Black Hills National Forest	343

ACKNOWLEDGEMENTS

We would like to thank the following for their contributions to the completion of this report. Jan Hammil, Director of American Indians Against Desecration (AID), was instrumental in arranging for interviews with various Traditionals on the Pine Ridge Indian Reservation. Those kind enough to consent to interviews there included Matthew King, Vernal Cross, Eli Tail, Russell Means, and Roger Byrd. Steve Sigstad initially served as the Contracting Officer's Representative, and provided various manuscripts and considerable support. Lance Rom later assumed the position of COR, and also lent a great deal of support to the project, providing obscure references, as well as reading the manuscript and commenting on it. Gene Singaas, the COR's supervisor at the Black Hills National Forest, was very helpful in a number of ways throughout the entire project, facilitating its completion. George Frison was kind enough to allow use of several photographs from his fieldwork. Larry Agenbroad reviewed a draft of the geology, and provided comments. Pat Hofer was very kind in providing a variety of materials and references at the South Dakota Archaeological Research Center. Bob Alex, South Dakota State Archaeologist, spent a great deal of time discussing Black Hills archaeological issues, and made numerous collections available.

1 Introduction

THE BLACK HILLS NATIONAL FOREST

This report reflects the desire of the United States Forest Service to synthesize all the known cultural resource information that has been accumulated up through November of 1983 from the properties administered as the Black Hills National Forest of South Dakota and Wyoming.

The Black Hills National Forest is included in U.S. Forest Service Region 2 (Rocky Mountain Region), being one of 17 National Forests and seven National Grasslands in South Dakota, Wyoming, Nebraska, Kansas and Colorado. Total public landholdings in the Region approaches 22 million acres.

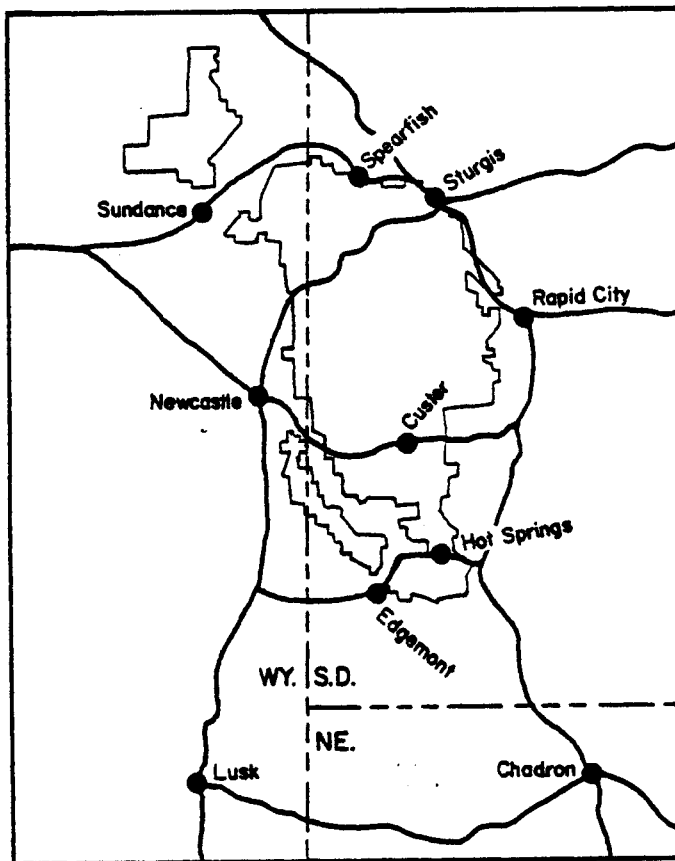


Fig. 1-1: The Black Hills N.F.

Spearfish (Spearfish, S.D.); Bearlodge (Sundance, WY); and Elk Mountain (Newcastle, WY).

The Black Hills National Forest, lying on both sides of the Wyoming-South Dakota border, contains 1,235,453 acres in somewhat contiguous parcels of land over an area roughly 120 miles north-south by 40-50 miles east-west (Fig. 1-1). Within this area are a large number of private landholdings, communities, a State Park (Custer), a National Memorial (Mt. Rushmore), a National Park (Wind Cave), and two National Monuments (Jewel Cave, Devils Tower).

The headquarters of the Black Hills National Forest is located in Custer, S.D. Under its jurisdiction are seven Ranger Districts: Custer (Custer, S.D.); Harney (Hill City, S.D.); Nemo (Deadwood, S.D.); Pactola (Rapid City, S.D.);

THE CULTURAL RESOURCE OVERVIEW

The purpose of a cultural resource overview is to summarize, compile and bring up-to-date all previously recorded cultural resource information (prehistoric and historic) on particular public lands. 36 CFR Part 219.2 (L)(1)(i) requires that all Forest Service Land Management Plans integrate such an overview. This synthesis can provide a baseline from which future research can begin, as well as being a valuable planning tool for land managers.

Included in this report are syntheses of the region's prehistory, ethnohistory and history, providing a baseline for future researchers in the Black Hills. In addition to that, management recommendations for each of these three topics are given. General environmental information (topography, geology, biology) is summarized in order to give a setting for the cultural data.

The production of this report has been a joint effort of E. Steve Cassells (Plano Archaeological Consultants), David B. Miller (Black Hills State College) and Paul V. Miller (Frontier Cultural Services). Cassells, as Principal Investigator, was responsible for the initial report outline, Chapters 1-8, 12-14 (Introduction, Prehistory, Ethnohistory, Summary, Future Directions, Conclusions). David Miller wrote Chapters 9-11 (History). Paul Miller collected all the raw data on the sites recorded in the Black Hills National Forest, straightened out the contradictions between Forest Service and State records, verified and corrected site locations on both Forest Service and State maps, and completed the transfer of site locations from standard USGS topographic maps to Mylar quad overlays for future Forest Service use.

No actual fieldwork was undertaken during the project. As is typical, this overview was produced through the compilation of hundreds of archaeological reports written largely as compliance work on the Black Hills National Forest in advance of timber sales, mineral exploration and other ground-disturbing activities. In addition, information was gathered from the files of the Forest Service, the States, and from private industry, such as Homestake Mining Company.

To assure the site inventory was accurate and complete, the master topographic maps of the Forest Service that have archaeological sites plotted on them were taken to Fort Meade and cross-checked with the State Archaeologist's master maps. There were a number of discrepancies noted, and these were investigated further until each problem was resolved. A final set of Mylar USGS quads were then plotted with the accurate sites, and these are being retained as the permanent (but updatable) maps at the headquarters of the Black Hills National Forest in Custer. Each primary archaeological report from the Black Hills National Forest was examined, and site data from these, in addition to information from in-house USFS site lists, were incorporated into the master site list included herein as an appendix.

These master maps held by the Forest Service have a number of symbols incorporated on them, in order to more readily identify site types and levels of significance. Squares indicate historic properties, while circles are prehistoric. If one of these symbols is blacked in, it has been considered as not eligible for the National Register. If left blank, it requires more information before an eligibility determination can be made. If an "x" is inside the symbol, the site is either on the National Register, or considered eligible.

There is a final portion of the project yet unmentioned. Although not included in the text, a series of Mylar overlays were prepared to be used in conjunction with topographic maps of Forest land. These overlays now indicate areas of probable aboriginal site densities. Based on Euro-American settlement patterns, there should be considerable overlap between prehistoric and historic land use, except for that land (primarily Central Area) that was mined extensively. Mining utilization in the Black Hills deviates from all other use patterns, and is far less predictable. The overlays are intended to be used as an indicator of potential site densities to land managers. They are not designed to be used in lieu of actual on-the-ground surveys.

The criteria used to determine high, medium and low site density probability were subjective, and not based on computer simulation or other similar approaches. Cassells has conducted surveys amounting to over 75,000 acres across all topographic zones within the Black Hills National Forest, from the northwest Hogback in Wyoming to the southern Hills in South Dakota. Based on that experience, high site density (60% chance of sites) was attributed to terraces along permanent water everywhere, similar terraces along intermittent drainages outside the Central Area, along the Limestone escarpment, and ridges along the Hogback. Moderate site density (20-60% chance of sites) includes gentle slopes (less than 5°), on the Limestone Plateau, and on ridges inside the Hogback and outside the Central Area. Low site density (less than 20% chance of sites) occurs on slopes over 5°, and anywhere in the Central Area away from valley floors. These patterns do not apply to mining sites, which can occur in a number of areas totally unrelated to water or topography. The Central Area, with its igneous and metamorphic deposits, is the prime mining region. This extends from south of Custer to the Lead-Deadwood area. Mines and associated features are common throughout this region. Though unpredictable in location, roads generally lead to these type of sites.

THE COMPILERS' FIELDS OF EXPERIENCE

There were three individuals involved with the compiling of data and the writing of this present overview document. Lead for this project was assumed by E. Steve Cassells, who holds an M.A. in Anthropology from the University of Arizona, has taught archaeology at the college level for four years, was a seasonal GS-11 archaeologist for the U.S. Forest Service (Gunnison National Forest, CO), the Colorado Assistant State Archaeologist, and the President of Plano Archaeological Consultants from 1979 to the present. Cassells has conducted archaeological research in the Black Hills since 1979, including acreage within all the major topographic zones there.

David B. Miller holds a Ph.D. in History from the University of Kansas, and has been on the faculty of Black Hills State College since 1968 (Full Professor since 1977). Throughout this time he has been involved in historic research of South Dakota, including substantial work within the Black Hills. In addition to pure academic research, he has conducted historic investigations as part of Black Hills cultural resource contracts.

Paul V. Miller has a B.A. in Sociology/Anthropology from the University of South Dakota, and has been conducting Black Hills archaeological work since 1975. He has been a survey archaeologist for the South Dakota Archaeological Research Center, the U.S. Forest Service, Plano Archaeological Consultants, and now directs Frontier Cultural Services in Custer.

2 The Environmental Setting

GEOLOGY

The Black Hills have been aptly described as a "blister in the Great Plains" (Shelton 1966:382). Lying across the present South Dakota-Wyoming border, the Hills rise 2,000 to 4,000 feet above the surrounding prairies.

The Black Hills were formed through a series of complex geological processes that began as early as the Precambrian Era, perhaps 2.5 billion years ago.

The land was then inundated by an inland sea, a source of extensive and heavy sediment deposition. Perhaps in conjunction with convection cells from the earth's interior, these sediments began to subside, forcing magma in the earth to rise. This intrusion of heat, along with the massive pressures, caused overlying sediments to metamorphose into schist, slate and quartzite. By the Cambrian Period, 600 million years ago, erosion had cut down these first Black Hills (Gries and Tullis 1955).

Between the Cambrian and Tertiary Periods (600 to 65 million years ago), an alternating cycle of updoming and sea inundation was responsible for additional deformation of the local strata, and increased deposits of marine sediments.

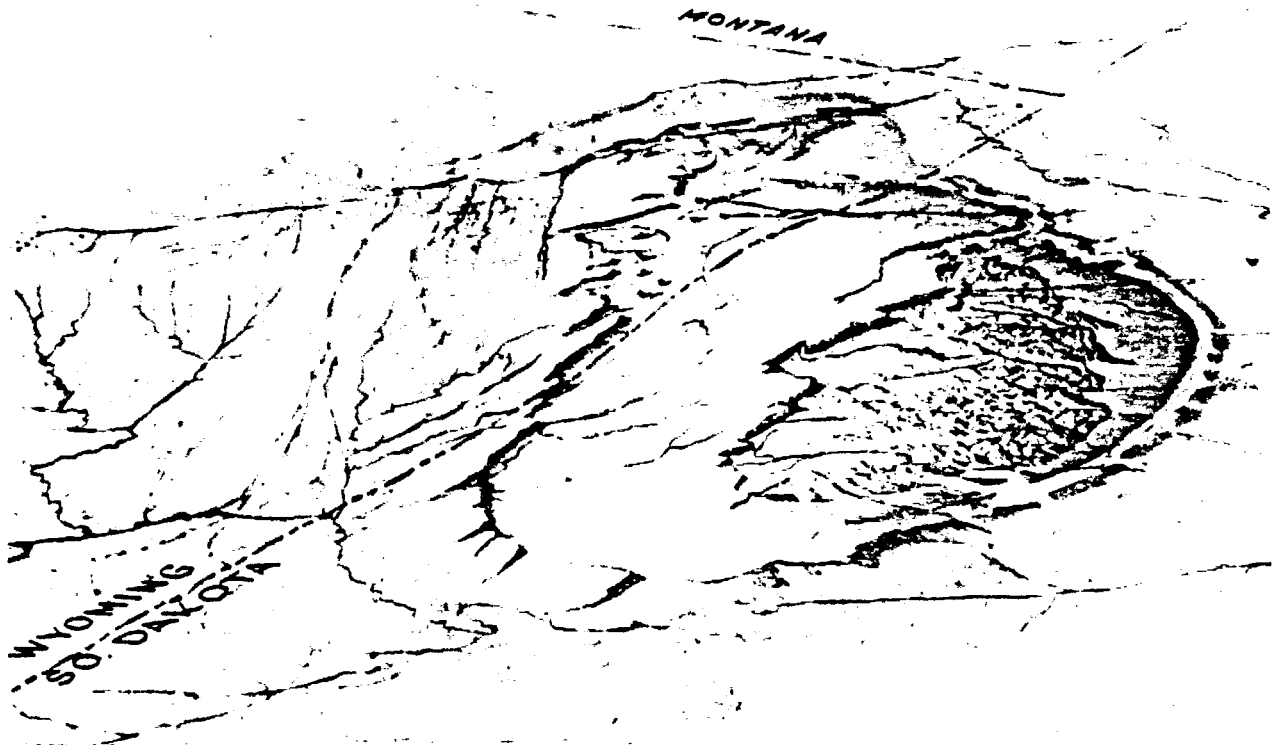


Fig. 2-1: The Black Hills, "a blister in the Great Plains".
(in: Shelton 1966, courtesy W.H. Freeman and Co.)

It is thought that near the end of the Cretaceous Period (ca. 65 million years ago), just before the onset of the Tertiary, the inland sea receded for the last time.

Sometime during the Tertiary, massive mountain building took place throughout the region. This event is termed the Laramide Orogeny. Plate tectonics scientists think it coincided with the separation of the North American plate from the European plate, at which time the Atlantic Ocean was created by the gap. Not only were the Black Hills raised at this time, but so was the present Rocky Mountain chain. No exact date can be placed on the Black Hills updoming, but it happened sometime between the end of the Cretaceous (65 million years) and mid-Eocene (ca. 35 million years ago).

Those formations on the outer rim of the Hills are among the youngest rocks, while the granite, schist, slate and quartzite in the central areas are the oldest. Near the northern portion of the Hills, a number of igneous intrusives of the Tertiary Period (e.g. Devils Tower, Bear Butte) are evidences of this final updoming (Gries and Tullis 1955; Shelton 1966)

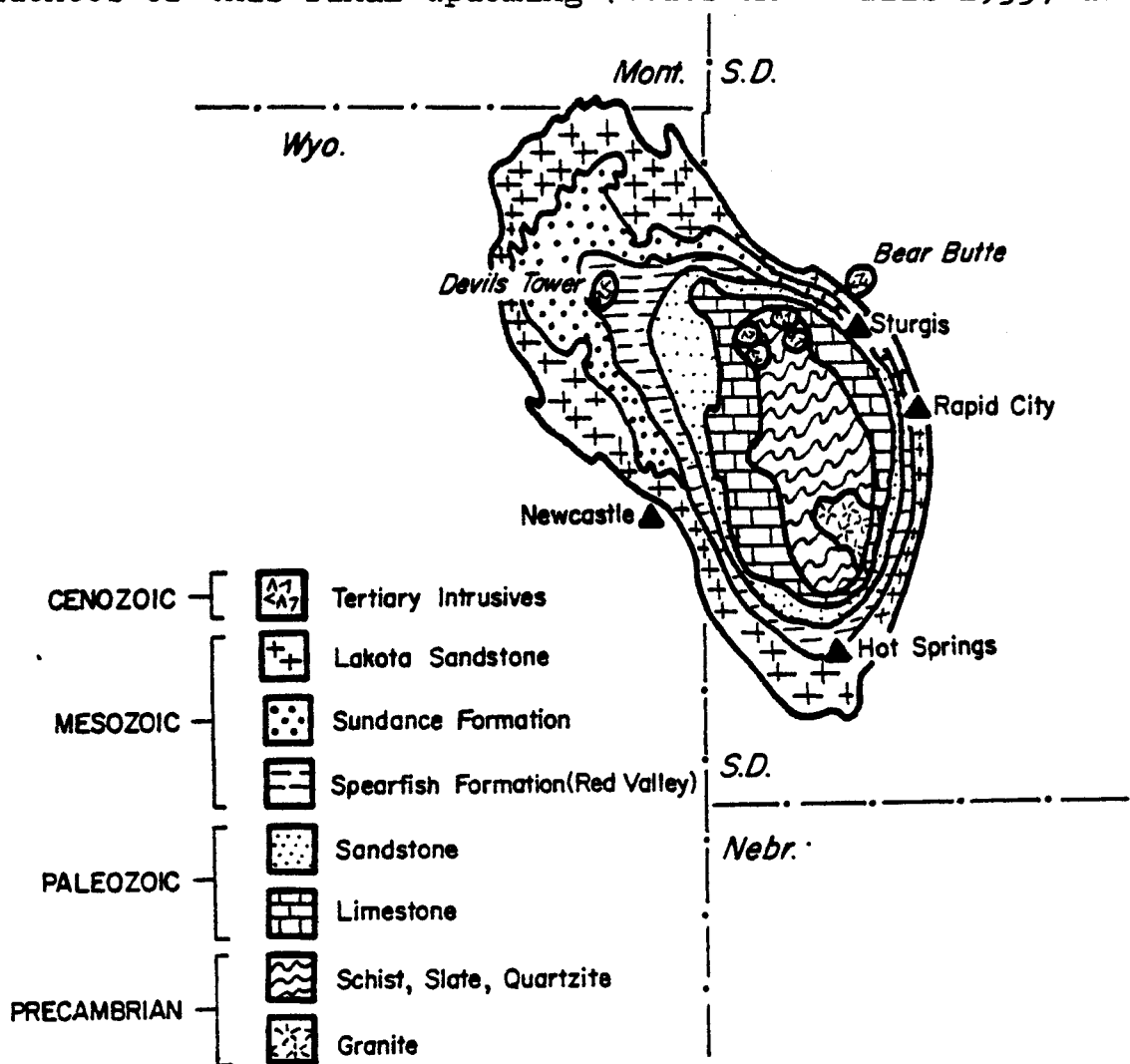


Fig. 2-2: Simplified geologic map of the Black Hills. (Modified from King and Beikman 1974)

GENERAL OUTCROP SECTION OF THE BLACK HILLS AREA				
	FORMATION	SECTION	THICKNESS " FEET "	DESCRIPTION
QUATERNARY	SANDS AND GRAVELS		0-50	Sand, gravel, and boulders.
	PLIOCENE	OSALLALA GROUP	0-100	Light colored sands and silts.
	MIOCENE	ARKWEE GROUP	0-500	Light colored shales and silts.
	OLIGOCENE	WHITE RIVER GROUP	0-500	Light colored shales with sandstone channels/fragments and local limestone lenses.
	PALEOCENE	TONGUE RIVER MEMBER	0-425	Light colored shales and sands, with sandstone fragments.
TERTIARY		CANNONBALL MEMBER	0-225	Greenish-brown shales and sandstone fragments, the latter often as concretions.
		LUDLOW MEMBER	0-350	Sandy gray shales and sandstone with thin beds of lignite.
		HELL CREEK FORMATION (Lower Formation)	425	Sandy-brown soft brown shales and gray sandstone, with thin lignite lenses in the upper part. Lower half dark sandy, many lignite concretions and thin lenses of iron carbonate.
		POE HILLS FORMATION	25-200	Grayish-white to yellow sandstone.
		PIERRE SHALE	1200-2000	Principal portion of Pierre shale showing typical bedded structure. Dark-gray shale containing scattered concretions. Widely scattered limestone masses, grayish-black fossiliferous.
		Shore Springs Mem.		Black fossiliferous shale with concretions.
		NIOBRARA FORMATION	100-225	Impure shales and sandstone shales.
		Tanner Sand Zone		
		CARLILE FORMATION	675-750	Light-gray shales with numerous large concretions and sandy layers.
		Wolf Creek Sands		
		BRENNHORN FORMATION	25-301	Impure sandy limestone, shaly part.
			200-350	Dark-gray calcareous shale, with thin greenish limestone layers at base.
		BELLE FOURCHE SHALE	300-350	Gray shales with scattered limestone concretions.
				Clay near base of shale.
		MOORE SHALE	180-250	Light-gray shaly shale. Thin shales and thin layers of sandstone.
CRETACEOUS		NEWCASTLE SANDSTONE	20-50	Sandy to light yellow and white sandstone.
		SHULL CREEK SHALE	170-270	Dark gray to black shale.
		FALL RIVER (Dakota?) ss	10-200	Massive to shaly sandstone.
		Fusion Shale	10-150	Coarse gray to buff cross-bedded sandstone, interbedded with buff, red, and gray clay, especially toward top. Local fine-grained limestone.
		Monksdale ls	0-25	
			25-400	
		MORRISON FORMATION	0-220	Green to brown shale. Thin sandstone.
		UNKPEPA SS	0-225	Massive fine-grained sandstone.
		SUNBANCE FM	230-400	Greenish-gray shale, thin limestone lenses. Shaly sandstone, red in some beds.
		GYPSUM SPRING	0-45	Red shales, gypsum, and limestone.
		SPEARFISH FORMATION	250-700	Red sandy shale, buff red sandstone and siltstone with gypsum and thin limestone layers.
		MINNEKAHTA LIMESTONE	30-50	Gypsum locally near the base.
		OPECKE FORMATION	50-135	Massive gray, laminated limestone.
		MINNEKAHTA FORMATION	350-650	Yellow to red cross-bedded sandstone, limestone, and sandstone layers of red, interbedded sandstone, limestone, dolomite, shale, and sandstone.
JURASSIC		Red shale with interbedded limestone and sandstone of base.		
		MISSISSIPPIAN	300-630	Massive light-colored limestone. Sandstone in part. Concretions in upper part.
		DEVONIAN	30-60	Thin to buff limestone, shaly locally at base.
		ORDOVICIAN	0-60	Buff dolomite and limestone.
			0-100	Green shale with siltstone.
			10-400	Massive buff sandstone. Greenish gray shale, shaly dolomite and limestone. Sandstone, with sandstone layers at the base.
PERMIAN				
PENNSYLVANIAN				
MISSISSIPPIAN				
DEVONIAN				
ORDOVICIAN				
CAMBRIAN				
PRE-CAMBRIAN				

DEPARTMENT OF GEOLOGY AND GEOLOGICAL ENGINEERING
SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY
RAPID CITY, SOUTH DAKOTA

1953

Fig. 2-3: General outcrop section of the Black Hills.
(courtesy Dept. of Geology and Geological Engineering,
South Dakota School of Mines and Technology)

TOPOGRAPHY

There are four major components of the overall Black Hills topography. These are (from oldest to youngest, and from the center out) the Central Area, the Limestone Plateau, the Red Valley and the Hogback Ridge (Darton and Paige 1925).

The Central Area (also known as the Central Core, or the Interior) is roughly 60 miles north-south by 25 miles east-west. It extends from the Pringle area, south of Custer, up to the Deadwood vicinity on the north. All of the sedimentary overburden there has either been eroded away after being weakened and cracked by the updomings, or has been metamorphosed by the Precambrian intrusives into the schist, slate and quartzites that now are exposed there.

What is most striking are the granite mountains known as the Harney Range. Included in that are Harney Peak (elev. 7,242 feet) and the famous Mount Rushmore. Spectacular pinnacles, such as the Needles, are also part of this Precambrian granite formation. Numerous outcrops of schist, slate and quartzite enclose the granite on all but the east side, and comprise the bulk of the Central Area's surface geology.



Fig. 2-4: Granite outcrops in the vicinity of Sylvan Lake in the central Hills.

Encircling the Central Area is the Limestone Plateau. Composed principally of Pahasapa Formation limestone, it rises

abruptly above the floor of the Central Area as a distinctive escarpment in many places. Some cliffs extend up to 800 feet above the floor of the Interior. A great many springs with high discharge can be found coming from the base of the limestone, as water percolates down through the formation and meets less permeable rock below, forcing the water to move laterally to the surface. The Limestone Plateau varies in width from its maximum of about 15 miles on the west side of the Hills, down to about two miles or so on the east. Extending outward from the Central Area contact, the Limestone Plateau runs in a relatively flat manner toward the Red Valley.



Fig. 2-5: A view of the Limestone Plateau escarpment from the Copper Mountain vicinity. The large open Gillette Prairie of the Central Area is off the photo to the right.

The Red Valley, known also as the "racetrack", is a relatively narrow unforested depression created through the erosion of the softer red shales of the Spearfish Formation. The name "racetrack" describes the fact that it encloses the inner Hills much like a circular track would.



Fig. 2-6: The Red Valley, viewed to the east near Sturgis. Note Hogback on the left, and the tilted sandstones on the right.

Outside of the Red Valley is the Hogback Ridge, a series of tilted sandstones of the Lakota and Fall River Formations. The Hogback can be several miles wide, as in the southern Hills, or much narrower, as on the east.

The Hogback is the outermost feature of the Black Hills, rising out of the plains at an ever increasing angle, and then terminating with an abrupt escarpment on its inner face, adjacent to the Red Valley.

Streams exit the Black Hills through "water gaps", the narrow cuts in the Hogback that served as principal entry into the Hills for humans, as well as for wild game, such as bison. They still function today as conduits for human traffic.

In addition to these four major topographic components of the Black Hills, two others merit mention.

Most prominent in the southern Hills, the Minnekahta Plains are a broad expanse of sparsely forested land made up of Minnekahta limestone.



Fig. 2-7: View to the southeast of the Minnekahta Plains south of Pringle. Beyond the prairie is the forested tilted sandstone near the outer edge of the Hills.

In the northern Hills are a number of conspicuous igneous intrusives that are among the more recent geological phenomena in the area. As part of the last updoming here, they are of Tertiary age. Among them are the well-known Devils Tower, Bear Butte and Terry Peak.



Fig. 2-8: View north from the Fort Meade area to Bear Butte, partially obscured by a lower slope of the Hogback above Bear Butte Creek.

CLIMATE

The abrupt altitude difference between the prairie and the Black Hills forces moisture-laden air masses, moving in from the north and the west, to rise upward. This rising brings about a cooling and contracting of the air mass that "squeezes out" the rain and snow onto the Hills. Given this relatively abundant moisture in the Hills, plant life otherwise not compatible with plains conditions, can thrive.

From a climatic standpoint, there are two zones in the Black Hills. These are the Northern Hills and the Southern Hills zones. From Deerfield on the south to Spearfish on the north, the Northern zone is significantly cooler, and receives higher precipitation on an annual basis. The Deadwood-Lead area averages 29 inches of moisture a year, as compared to 19.3 in Custer. The growing season in Deadwood is 107 days, as compared to 142 in Hot Springs. The surrounding prairies receive only 14-17 inches of rain per year (Froiland 1978:36).

PLANT AND ANIMAL LIFE

Paha Sapa, in the Sioux tongue, means Black Hills (Sapa-black, Paha-hills), an indication of its coloration from afar, as well as its prominence above the otherwise flat landscape. Others have described it as "a forested island in a grassland sea" (Froiland 1978:1).



Fig. 2-9: "A forested island in a grassland sea" - the Black Hills, as viewed from the prairie south of Edgemont.

According to Froiland (1978:81-96), the Black Hills can be divided into four primary plant zones: the Rocky Mountain Coniferous Forest; the Northern Coniferous Forest; the Grasslands; and the Deciduous Forest.

The Rocky Mountain Coniferous Forest, covering the greatest area of the Hills, has as its primary component the ponderosa pine. Ponderosa pine are tolerant of heat and low moisture, as well as thin, rocky soils. The pine concentrates along the higher elevations, while mixed grasses dominate the valley floors. This forest type is generally not extremely dense (although some stands of "dog-hair" - tight clusters of stunted trees - do exist) and the open nature of the ponderosa growth allows for an understory of ground juniper, kinnikinnik and bearberry. Aspen tend to grow in open and/or disturbed areas. The limber pine and the lodgepole pine are present in limited stands as well.

The second vegetative complex, the Northern Coniferous Forest, is primarily limited to the northern Hills, and to cooler canyons in the higher elevations of the Harney Range, farther to the south.

A principal species in this complex is the white spruce, and the Black Hills occurrence of it marks its southern limit in this hemisphere, isolated from its primary range hundreds of miles to the north (Froiland 1978:86). Associated with the white spruce are a variety of plants that contribute to a lush vegetative understory. These include ferns, moss, lichens, and a number of flowers and grasses. Although in limited numbers, paper birch occurs in some of the cooler, moister regions. Aspen flourishes on park edges and in disturbed areas.

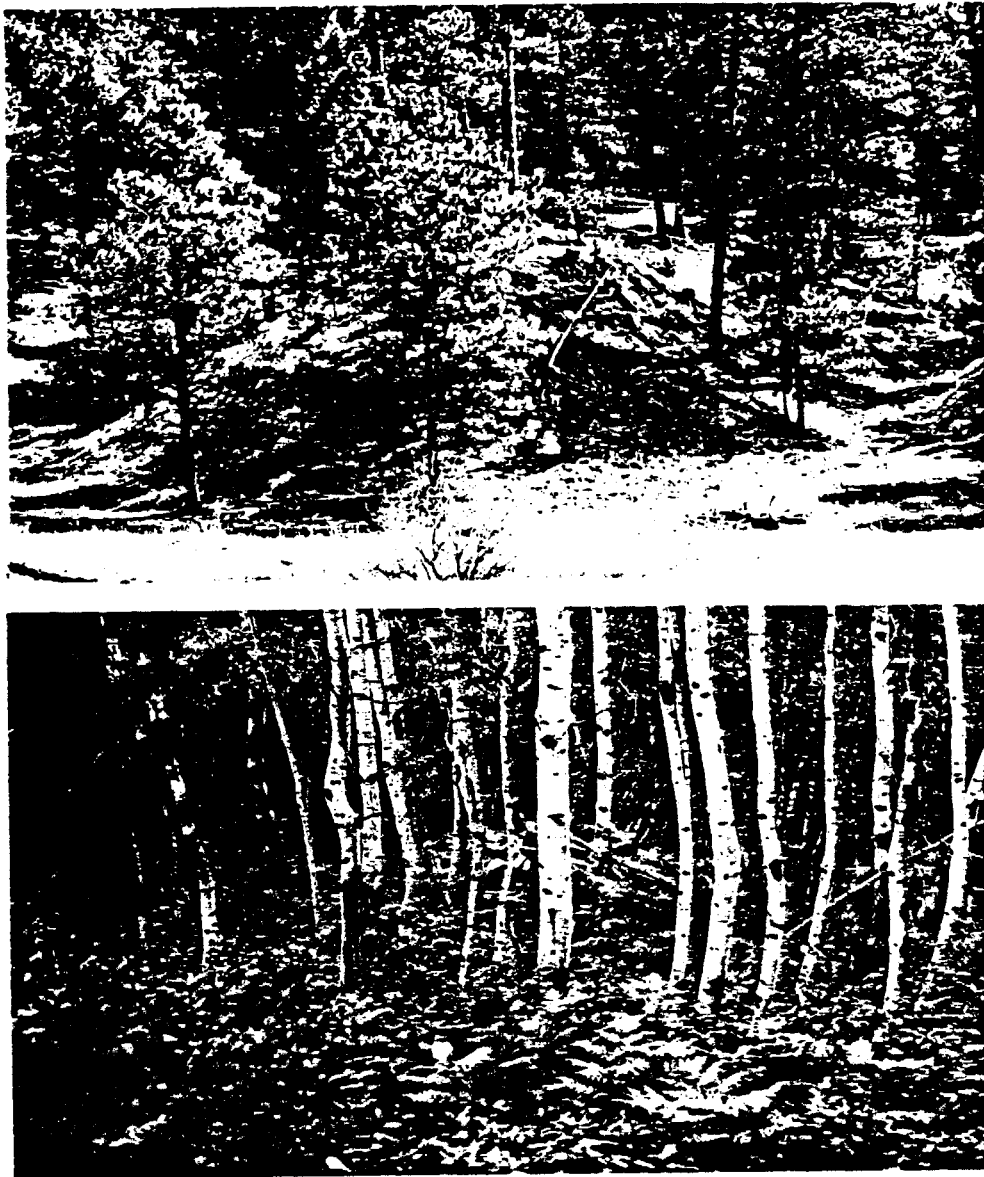


Fig. 2-10: Top- typical Rocky Mountain Coniferous Forest, with ponderosa pine growing in an open nature. Bottom- example of lush understory in the Northern Coniferous Forest complex, with ferns growing beneath aspen, pine and spruce.

The Deciduous Forest is made up of a variety of trees and shrubs. Among them are bur oak, American elm, green ash, box elder and eastern hop-hornbeam. Cottonwood and peach-leaved willow dominate the streambank communities in the low elevations on the margins of the Hills, but disappear toward the interior, where aspen, paper birch and shrubs, such as river birch, red osier dogwood and a number of willow species take over.

In the northern Hills, a greater variety and a more widespread deciduous complex thrives, due to the increased moisture availability.

The Grasslands complex surrounds the Black Hills, having adapted to the more arid climate there. Primarily it is what could be called a mixed-grass grassland (Shelford 1963), consisting of species from both the more eastern tall-grass grasslands, and the more westerly short-grass grasslands.



Fig. 2-11: View to the south from the Black Hills, looking out to the terraces of the Cheyenne River near Edgemont, and the grassland cover predominating there.

Within the Black Hills are a number of "high prairies", existing among the dense forest stands. Several, such as the Gillette Prairie and Reynolds Prairie, near Deerfield, and Danby Park, near Custer, are quite extensive. Others, especially on the Limestone Plateau, are more localized like a meadow. In these cases, there is an abrupt line between the forest and the grassland. Explanations for this have

so far not been satisfactory to all. It does appear, however, that differential soils are at least one factor (Froiland 1978:94).

The primary grassland species in the Black Hills, as with the distribution of coniferous trees, varies somewhat between the northern and southern regions.

From the central to the northern Hills, the main species include Kentucky bluegrass, timothy, brome, needlegrass, wheatgrass, wild rye and a variety of forbs. In the drier south, the predominant forms include little bluestem, blue grama, buffalo grass, Japanese chess, prickly pear, yucca, pasture sage and mountain lily. Along the streambanks, a more lush complex of plants exist.



Fig. 2-12: Modern bison grazing in one of the many open areas within Wind Cave National Park in the southern Hills.

Modern fauna in the Black Hills include a diverse assortment of temperate climate species. Many were economically significant to both aboriginal and historic groups that frequented the area. Some of the types include the coyote, elk, mule deer, white-tailed deer, and black bear. The bison, was prehistorically and historically important for human subsistence, but was nearly exterminated during the late 1800's. Bison can now be found in Wind Cave National Park and Custer State Park, as well as in some commercial ranching operations. Migratory waterfowl do move through the Hills seasonally. The turkey (recently introduced) is thriving there, and hunted on an annual basis. Reptiles include various

turtles and snakes, as well as some amphibians. The only poisonous reptile present is the prairie rattlesnake.

Mammoth elephants are known from the Black Hills, although at present, there is no indication of their being hunted by man. The sole evidence for man-mammoth association in the area is at the Lange-Ferguson site, located east of the Hills in the Badlands. This site will be discussed in the following chapter.



In 1974, construction work on the south side of Hot Springs revealed the presence of mammoth bones within a sinkhole (karst depression). Topographically, the site is located in the Red Valley, or the "racetrack" portion of the Hills. The sinkhole, common at several places in the region, was formed when the roof of a subterranean solution cavern in the underlying limestone collapsed. This created a depression all the way to ground surface. Water table levels would have, at times, intersected the sinkhole, creating a pond that would have attracted various animals. Large game, lured by the water into the steep, soft-sided depression, would have found their escape impossible (Agenbroad 1977).

Between 1974 and 1983, Larry Agenbroad has excavated the remains of at least 34 Columbian mammoths, a camel, a great short faced bear (Arctodus simus), and a number of other smaller mammals, along with a raptorial bird. Only 15% of the site has been excavated to date (Weintraub 1983).

Fig. 2-13: A Columbian mammoth being excavated at the Hot Springs Mammoth site. (courtesy Larry Agenbroad)

The radiocarbon dates measured on bone indicate the age of the site at ca. 26,000 years ago, long before any evidence of humans in the vicinity. The Hot Springs Mammoth site is one of the most important bone beds in the country because it reveals such a wealth of information on Pleistocene fauna in the Black Hills and the American West.

The Black Hills are a land of immense beauty and complexity. They hold within their boundaries a heritage going going back billions of years to a time when the area first began to distinguish itself from its surroundings. It has become a haven, not only for human populations, but also for a wide number of plant and animal species, many of which could not survive outside of the Hogback Ridge. It has provided a rich backdrop for the cultural parade that began its procession at least 11,000 years ago.

For additional information on floral and faunal resources in the Black Hills see: Turner 1974; Pettingill and Whitney 1965; and Froiland 1978.

3 Prehistory: A General Overview

ENTRANCE INTO THE NEW WORLD

The North and South American continents are surrounded by significant water barriers that have proved adequate in reducing migrations by land organisms, including humans. During most of human prehistory, prior to the development of stable boats, the Western Hemisphere would have remained void of humanity. However, some limited opportunities for access arose as time passed.

The climatic oscillations during the Pleistocene (Ice Age) and the corresponding fluctuation of sea level in response to the forming and melting of land ice provided humans with periods of time in which pedestrian travel into North America was possible. The Bering Strait, a narrow gap between Alaska and Siberia, was at various times dry land up to 1,500 kilometers wide. The sea floor there is quite shallow, less than 40 meters in places, and would have been exposed each time substantial quantities of sea water became locked in the continental ice sheets. This process took place several times over the past 40,000 years, and undoubtedly many times before that, although evidence for the latter is lacking, due to subsequent reworking of the surface geology.

Although prehistoric peoples may have had other motives for entering the New World, one of the more popular archaeological speculations is that hunters followed the herds of mammoths and other large game across the strait and into the unglaciated and tundra-covered portions of Alaska. It has been suggested that once the early peoples reached the interior of Alaska, they would have found the route south blocked by the same massive ice sheets that had also been directly responsible for lowering the sea level and permitting them access to the continent in the first place. This ice barrier would have caused an interlude in their travels until the next warming trend developed, opening up a corridor and permitting passage to the unglaciated regions of the south (Laughlin 1967; Muller-Beck 1967; Jennings 1968). It should be recognized, however, that the corridor concept is not yet accepted by all. Some feel that the southward movement of peoples from the Alaskan inlands was never significantly impeded.

Given the above model, it would be reasonable to expect the oldest New World sites in the northwestern Arctic and the youngest in Patagonia. Actually, the greatest number of early dates that have been accepted without question have come from the American Southwest, the Plains, and the Eastern Woodlands. This is not to say that early sites are not known in the vicinity of the Bering Strait. Old Crow Flats in the Yukon (Irving and Harington 1973; Bonnicksen 1978) yielded a date of ca. 27,000 B.P., and other very early sites have been

reported throughout the New World. But most, if not all, lack some of the criteria demanded by the archaeological community as a whole, including a definite and clear association of undisputed artifacts in a well-stratified site that can be reliably dated by conventional methods. It is anticipated that sites in the 25,000 year range will eventually be found and accepted by all, but at present, those sites enjoying nearly universal endorsement are considerably younger (ca. 12,000 B.P.). Recent excavations at the Meadowcroft Rockshelter in Pennsylvania have yielded stratified human remains that have been dated to over 19,000 B.P. Although the date is still somewhat controversial, it does appear that a groundswell for its support is building (Haynes 1980; Mead 1980; Adovasio, et al 1980).

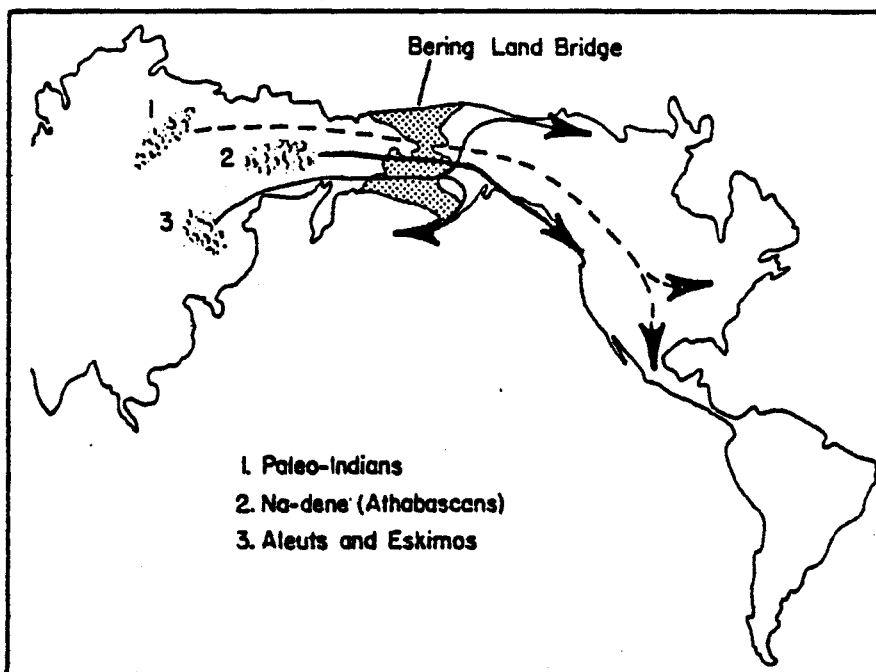


Fig. 3-1: Turner's speculative population sources in Asia, and migration routes (Folsom and Folsom 1982).

The presence of the Bering Strait land bridge is not the only evidence used by prehistorians to demonstrate a New World cultural continuum with Asian roots. Physical anthropologists have verified that only fully modern Homo sapiens have been found in the Americas, suggesting an entrance no older than the Late Pleistocene. These scientists have documented

a variety of genetic traits held in common by modern Asians and Native Americans, including similarity in teeth (shovel shaped incisors) and blood types (both have A and O and lack B). However, the modern American Indian is not identical to the modern Asian, a probable result of continuing evolutionary processes, affected by new genetic material from several waves of immigrants. Cristy Turner has examined the dental remains of over 6,000 skeletons from the New World, Russia, and Siberia. These collections represent a wide variety of populations separated geographically and by time. His findings (Turner 1981, 1983; Folsom and Folsom 1982) bear out previous cultural studies of Native Americans. Tooth patterns distinguish between the main body of Indians with origins in an initial immigration perhaps over 20,000 years ago, the Athabascans (Na-dene) who arrived later (Turner speculates 14,000 - 12,000 years ago), and the most recent colonists, the Aleuts and Eskimos. Based on Old

World comparative samples, the early Paleo-Indians of pre-20,000 years ago originated in the Lena Basin of Siberia. The Athabascans, including the Navajo, Apache, and several of the Northwest Coast groups, have dental affinities to peoples from the forests of northeast Siberia. The Aleut-Eskimos show a genetic connection with the Amur Basin on the Chinese-Soviet border, south of the other two points of origin.

Jesse Jennings has aptly described these hardy nomads who were willing to brave the harsh life of the north:

"There was an endless land filled with natural riches to be conquered by a tiny, arctic-hardened, cold-screened population of more than average toughness and viability" (Jennings 1968:46).

In addition to their genetic baggage, the newcomers to the Western Hemisphere brought cultural attributes that had been honed in the midst of the European Ice Age and which would serve as buffers between the foragers and the environment of a new land. Clothing, tools, hunting/gathering skills, and shelters likely crossed the strait in toto, although much of the actual evidence has failed to survive.

With the cumulative knowledge of the myriad generations arisen from the Old World, humankind stepped into a new land just before the sea door closed for the last time. As time passed, isolation in conjunction with a functional stone age culture brought about lifeways that were both unique and yet held some developmental parallels with Old World counterparts right up to the time Europe "discovered" America.

THE PALEO-INDIANS

Prior to the discovery of Ice Age bison with human-manufactured spear points imbedded in the bone bed that was washing out of an arroyo wall near Folsom, New Mexico in 1926 (Figgins 1927; Cassells 1983), most archaeologists felt that the earliest Americans had only been on the continent for a few thousand years. With the Folsom discovery, it was obvious humankind had been here much longer, although it was not until the 1940's, with the development of radiocarbon dating, that New World prehistorians were able to tie down the antiquity of the Americas with any certainty.

As previously mentioned, there are some in the profession who are working on sites that are said to be ca. 20,000 years of age or older, and in time, these claims may be found acceptable by all. However, as yet, the earliest well accepted sites in the New World are known as Clovis, named for the find near Clovis, New Mexico in 1936 (Cotter 1937).

Clovis sites are relatively rare in the New World, although they have been found from coast to coast in North America. They all cluster in age around 11,000 B.P., and many are associated with what appears to have been a favorite prey: the mammoth.

Clovis sites usually are kills, and contain the butchered remains of mammoth, bison, and other terminal Pleistocene game, such as camels, horses, sloths, and some smaller species. These kill sites generally are located along tributaries of major streams, in areas of ponded or slow-moving water (Haynes 1974). The tool kit of the Clovis hunters included the distinctive Clovis point, a large lanceolate projectile point with a flute (groove) on both faces at the basal end, along with various scrapers, blades, hammerstones, flake knives, choppers, and bone tools, including bone points.

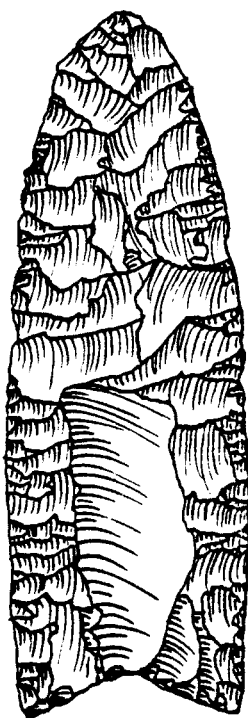


Fig. 3-2: (left) Typical Clovis point; (right) point from the Lange/Ferguson site.

There are no known Clovis sites in the Black Hills proper. As mentioned earlier, mammoths are known from the Hot Springs Mammoth site, but died of natural causes prior to the presence of humans. If Clovis points have been found on the surface in the Hills, they have not been reported.

The only definite Clovis site in South Dakota is the Lange/Ferguson site, a mammoth kill and butchery station located in late Pleistocene sediments within the White River Badlands of the Pine Ridge Indian Reservation, east of the Black Hills.

Excavated by Adrien Hannus, now of Augustana College, it contained the butchered remains of one adult and one juvenile, tentatively identified as Mammuthus jeffersonia.

Associated with the bones, in the same strata, but outside of the actual bone bed, was a small Clovis point. Within the bone bed was a small tertiary flake of brown chalcedony. Hannus has also accumulated a number of bone fragments that are being interpreted as butchering tools.



Fig. 3-3: Exposed mammoth bones at the Lange/Ferguson site, S.D.

There were two radiocarbon dates obtained from the site. A date of $10,670 \pm 300$ B.P. was determined from organic material in the sediments sealing the bone bed, and thus a minimal age for the kill itself. A second date, derived from bone collagen, was corrected to $10,800 \pm 530$ B.P. (half-life of 5568 years). Using a half-life of 5730, the kill falls into a time of 11,000 B.P. (Hannus 1984).

The Lange/Ferguson site appears to match the pattern of most Clovis sites, in terms of location and age. The low number of lithic artifacts is somewhat unusual, unless one considers the apparent extensive use of bone butchering tools there. These bone tools were probably made on the spot, as expedient implements for processing the two mammoths, thus replacing the otherwise necessary lithic knives, choppers and scrapers.

The apparent lack of man-mammoth associations within the Black Hills is yet unexplained. The presence of mammoths at Hot Springs indicates the environment was attractive there. Perhaps future research in the Hills will reveal Clovis sites.

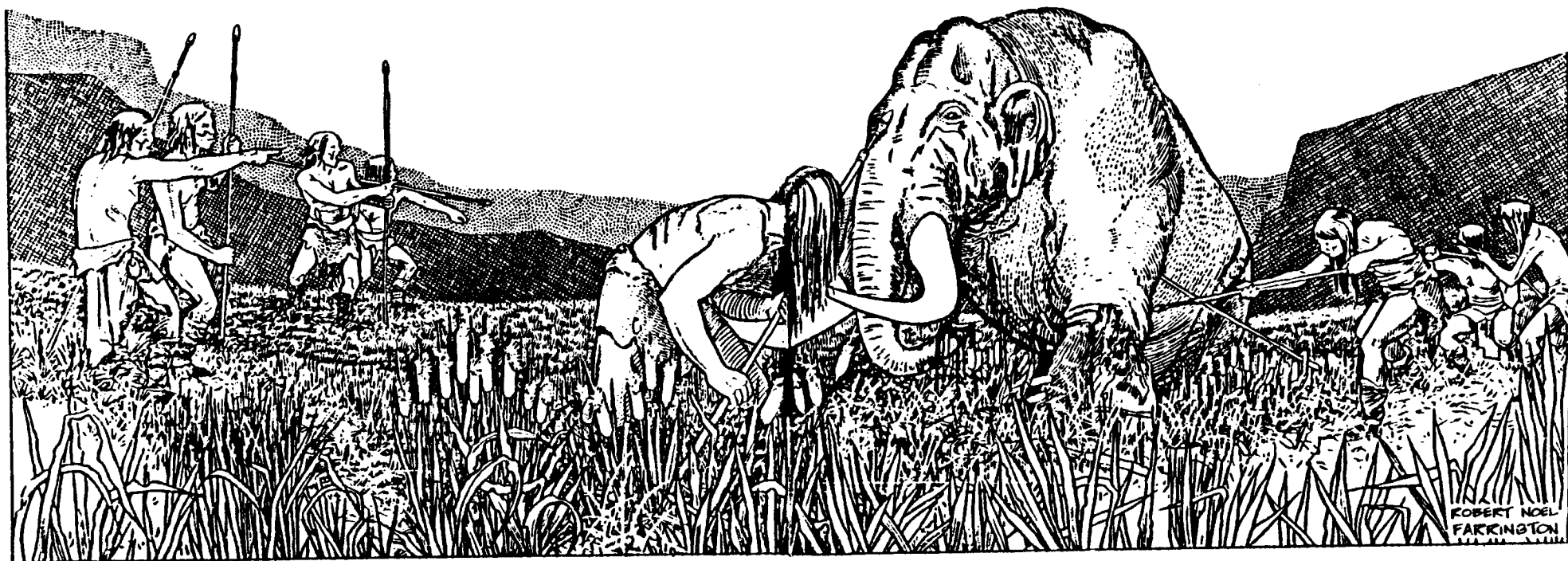
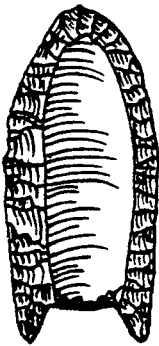


Fig. 3-4: Artist's reconstruction of a group of Clovis hunters bringing down an adult mammoth in a bog. (courtesy of Robin Farrington - IN: Cassells 1983).

Overlapping and following the Clovis Period, during a time when the populations of mammoths, horses, camels and other Pleistocene megafauna were declining, is the Folsom Period, the second of three Paleo-Indian subdivisions. The first discovery at Folsom, New Mexico (previously discussed), was responsible for stimulating the quest for early man in the New World.

According to Bob Alex, South Dakota's State Archaeologist, there have been some surface finds of Folsom points in or around the Black Hills, but there are no documented sites. Folsom points resemble Clovis, in that they do have flutes on both blade faces. The points are typically shorter than Clovis, and are far thinner. In addition, the flutes extend nearly the entire length of the blade, as compared to Clovis flutes only covering the basal third to half.



Although no Folsom sites have been found within the Hills, there are a number of sites to the south and west in Wyoming, such as Brewster (Agogino 1972), Hanson (Frison 1978), Carter-Kerr McGee (Frison 1984), and Hell Gap (Irwin-Williams, et al 1973), as well as farther south in Colorado. The dates for these generally range from about 10,850 to 10,375 B.P. (Frison 1978:23).

Fig. 3-5: A typical Folsom point.

Following the Folsom Period is the third Paleo-Indian subdivision, the Plano Period. Contrary to the apparent homogeneity of tool types across North America during Clovis and Folsom times, the Plano was a period in which substantial diversification of projectile points began to occur. There is some suggestion that these differences are rooted in regionalism, although on the plains, a great deal of geographical overlap is known, and thus the variations are likely due to a number of yet undetermined factors.

At any rate, at about 10,000 years ago, the fluting of projectile points, a technique fraught with difficulties (based on what appears to be a high percentage of breakage in various stages of manufacture in Folsom sites [Wilmsen and Roberts 1978; Frison and Bradley 1980]), began to fall into disuse. The succeeding projectile points became simpler, and perhaps stronger, while retaining the long narrow lanceolate form.

Many of these Plano types are unknown in the Black Hills, although they are present in sites from the surrounding regions. To the southwest of the Hills in Wyoming is the Hell Gap site (Irwin-Williams, et al 1973), a remarkable multicomponent site with superimposed levels that include Plano occupations of Agate Basin, Hell Gap, Alberta, Scottsbluff/Eden and Fredrick.

North of Hell Gap is the Agate Basin site, where a date of $10,430 \pm 570$ was determined from this bison trap in a steep-sided arroyo (Frison 1978; Frison and Stanford 1982).

In northeast Wyoming is the Carter/Kerr-McGee site, which had a remarkable assemblage of tools from Clovis, Folsom, Hell Gap-Agate Basin, and Cody-Alberta occupations (Frison 1984). Each of the four components were separated by sterile soil. The Folsom level dated $10,400 \pm 600$ B.P.

In northwestern Nebraska, on the edge of the Pine Ridge escarpment, is the Hudson-Meng site, an Alberta bison kill (Agenbroad 1978). On the basis of an association of a Cody knife with the Alberta artifacts, Agenbroad has proposed that Alberta be included in the Cody Complex, heretofore composed of Eden, Scottsbluff points and Cody knives.

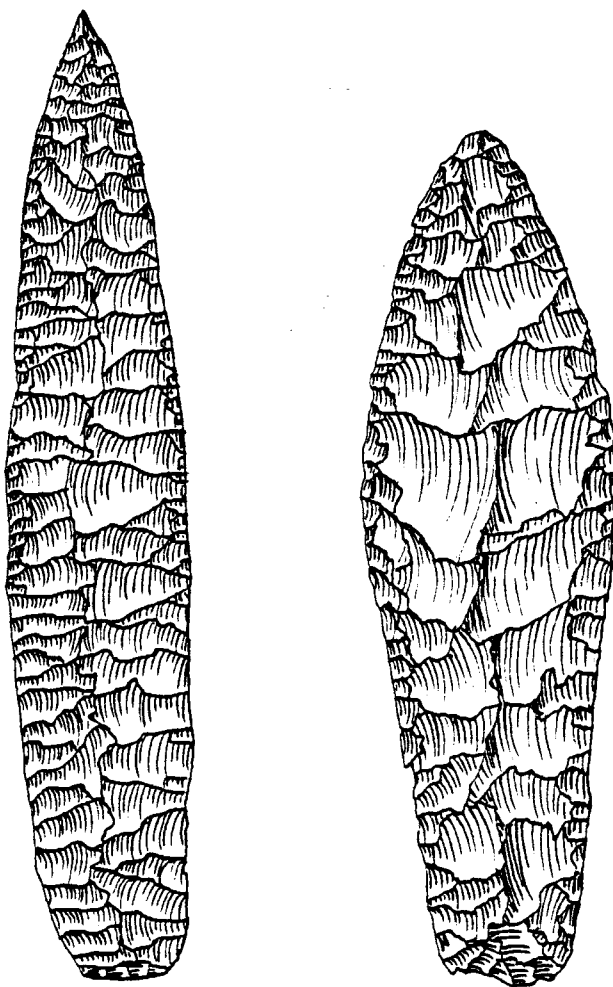


Fig. 3-6: (left) Agate Basin point; (right) Hell Gap point.



Fig. 3-7: The bison bone bed at the Agate Basin site. (Frison 1978, courtesy Academic Press Inc. © 1978).

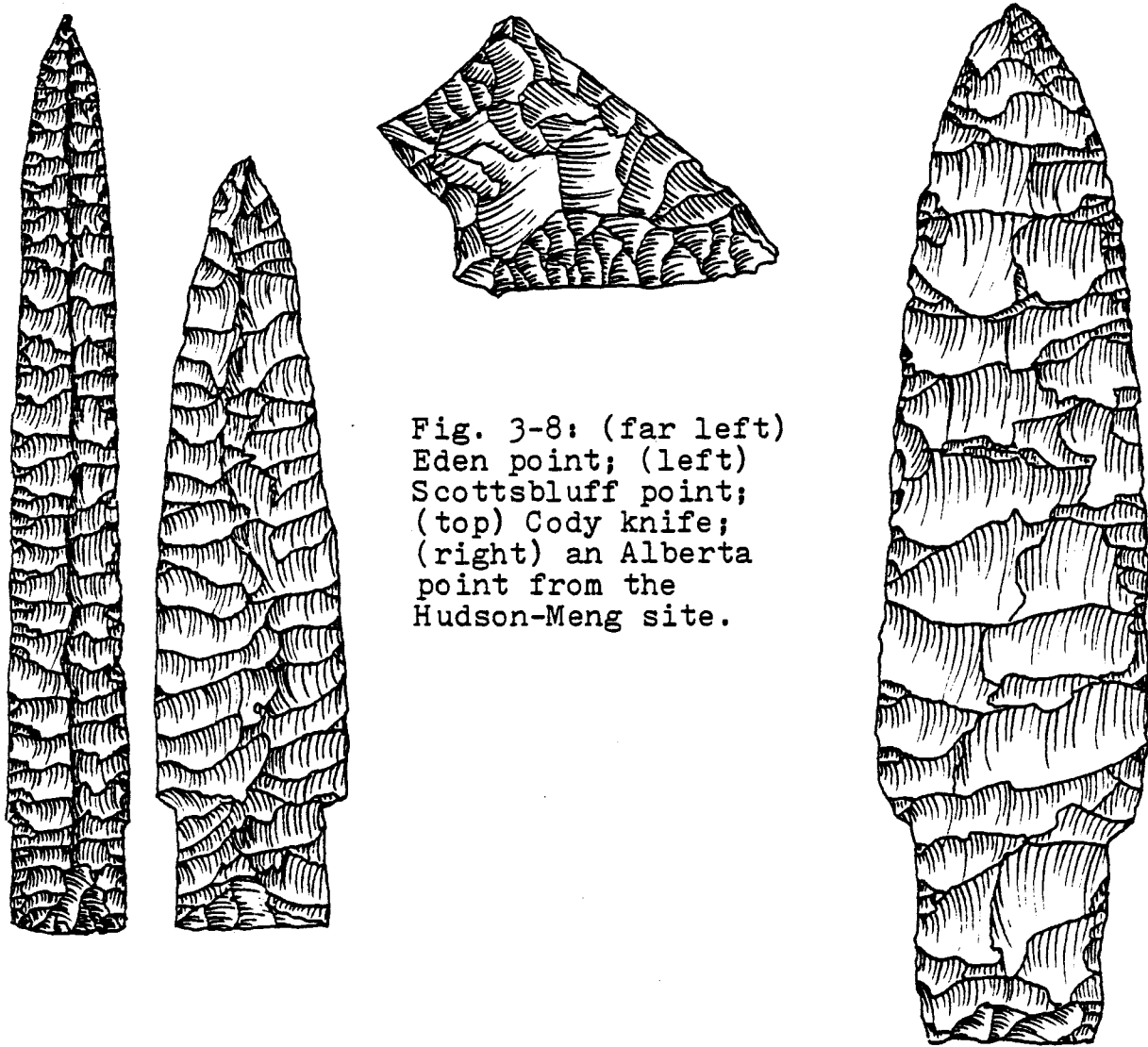


Fig. 3-8: (far left) Eden point; (left) Scottsbluff point; (top) Cody knife; (right) an Alberta point from the Hudson-Meng site.

Closer to the Black Hills is the Ray Long site, a Plano camp discovered during a survey prior to the construction of Angostura Reservoir on the Cheyenne River, south of Hot Springs (Hughes 1949; Hughes and White nd). The point style named for the area, is known as the Angostura point, a transverse oblique form with no shoulder and a straight or concave base. During the late Plano, a number of similar points with transverse oblique flaking are known on the plains, such as James Allen (Mulloy 1959), Fredrick (Irwin-Williams et al 1973), and Lusk (Greene 1967). Within the Black Hills, this type of point seems to be among the most common.

All of the Paleo-Indian periods shared a big game hunting tradition with roots in eastern Asia. These foragers relied entirely on wild resources, migrating throughout the year to

those locations that they could successfully exploit. By the end of the Paleo-Indian Stage, most of the Pleistocene Big game had become extinct, probably a result of environmental change (warming and drying) and hunting pressure. By the advent of the next cultural development, the Archaic Stage, the groundwork had been laid for efficiently exploiting nearly everything edible.

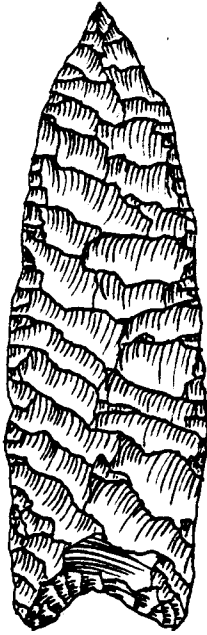


Fig. 3-9: A James Allen point.

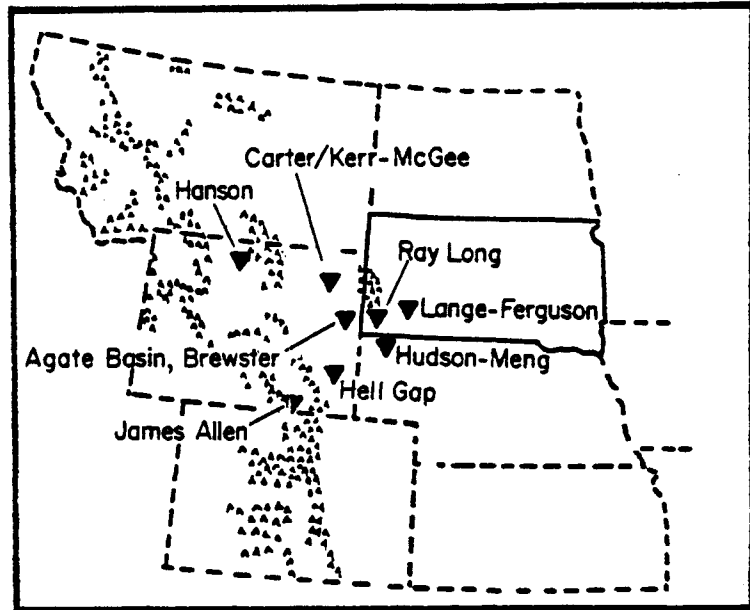


Fig. 3-10: Selected Paleo-Indian sites mentioned in the text.

THE ARCHAIC

For several thousand years, Paleo-Indians moved throughout the plains with what appears to have been a steadfast focus upon herds of late Pleistocene fauna. In time these first Americans gained a solid foothold in the New World, increasing in number and density.

By about seven thousand years ago, in what is termed the Archaic Stage, archaeological evidence begins to provide clues that cultures on the plains were changing. These indicators are more than just subtle variations in flint knapping techniques or stylistic differences in projectile point outlines. The large Bison antiquus, the mammoth, and other Ice Age fauna were extinct. Such a drastic, though perhaps gradual, loss of a primary food source must have created considerable cultural stress. It was probably this that shifted attention to previously unexploited plants and

animals. The people of the post-Pleistocene Archaic appear to have learned the harsh lesson of focusing too tightly on a specific food source. The dramatically-increased presence of manos and metates (grinding implements) in Archaic sites seems to support the archaeological interpretation of a shift in exploitation focus, with a wider range of plant foods added to their diet, along with small game.

Projectile points changed from stemmed and stemless lanceolates to shorter notched and stemmed forms. Overall, the quality of stone tool manufacture began to decline during the Archaic, a trend never to be reversed.

These Archaic projectiles were propelled by atlatls (throwing sticks), which acted as an extension of the arm and increased the velocity of the spear. There is some limited evidence of atlatl use during the Paleo-Indian times (Wheat 1979), but during the Archaic, there is no doubt it was a significant hunting aid. The bow and arrow would not become part of the aboriginal arsenal until the Woodland, several millenia later.

Interpretation of Archaic data, especially from the plains, has been influenced by the writing of Ernst Antevs. He published papers on former environments of the American West, proposing that the past 10,000 years be divided into three climatic episodes (Antevs 1948, 1955). The Anathermal, from 10,000 to 7,000 B.P., was thought to be cooler and wetter than now. From ca. 7,000 to 4,500 B.P. was the Altithermal, a time drier and warmer than at present. Finally, the Medithermal extends from about 4,500 B.P. up to the present, with moisture increasing and temperature diminishing to current conditions. The Antevs model is based on evidence of erosional and depositional cycles, as seen in strata throughout the western U.S. Of greatest interest to most archaeologists is the Altithermal, because in an area like the plains that often seems to teeter on the brink of climatic disaster, a significant desiccation could dramatically alter the scope of life.

With the Altithermal concept in mind, archaeologists have for years looked for evidence of human presence on the plains in the 7,500 to 4,500 range. They found little, and this seemed to confirm the Antevs hypothesis. With such adverse climatic conditions, Early Archaic hunters and gatherers seem to have been forced to move to adjacent areas. Mulloy went so far as to term this time the "Altithermal Hiatus" (Mulloy 1958).

Colorado archaeologist/geologist James Benedict has conducted a great deal of work on this problem, and he feels the Altithermal hunters sought out the higher altitudes as a refuge from the heat and desiccation (Benedict 1979, 1981; Benedict and Olson 1978).

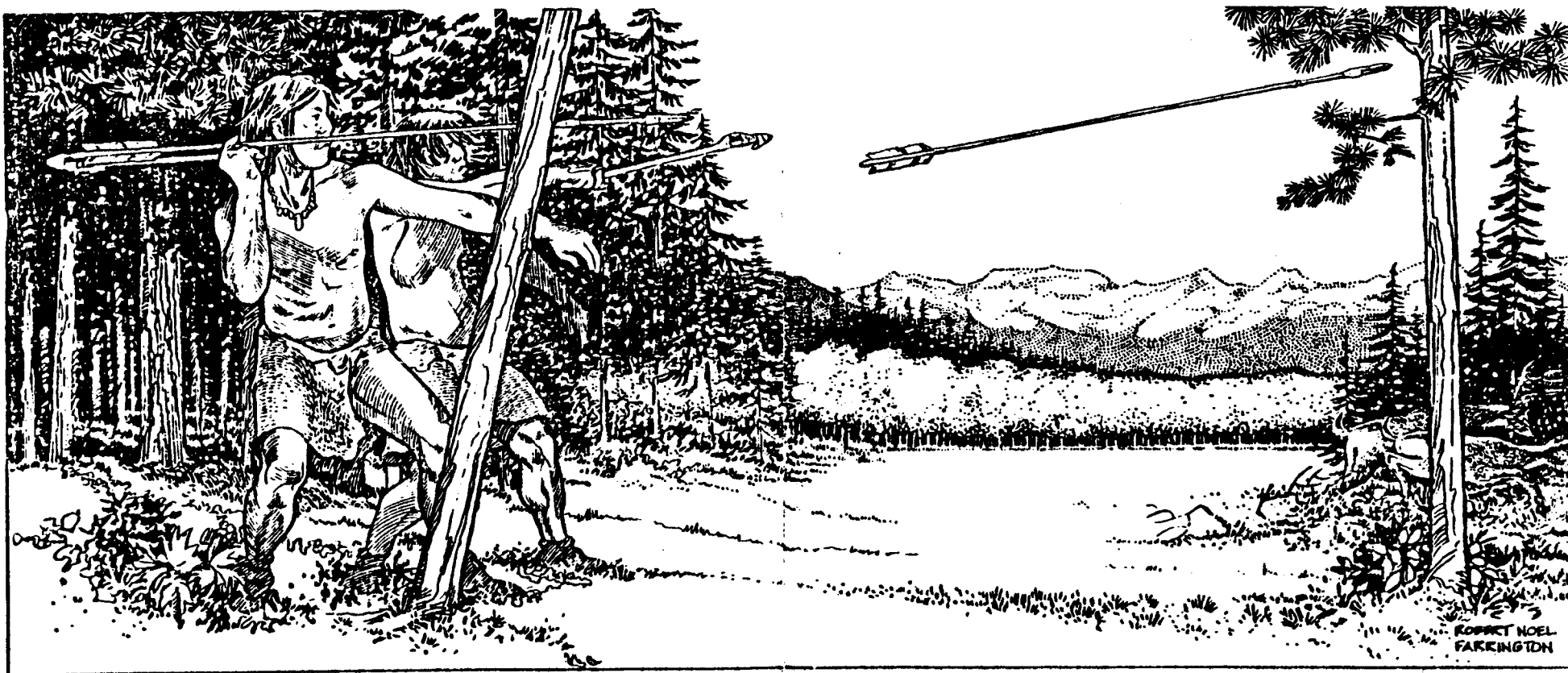


Fig. 3-11: Artist's reconstruction of two Archaic hunters hurling spears with the aid of atlatls (Courtesy Robin Farrington - IN: Cassells 1983).

Benedict has derived population curves based on radiocarbon dates from known Altithermal sites in a large area of the western United States, Canada and Mexico. He thinks that, based on these curves, there were probably two major Altithermal droughts, 7,000 to 6,500 B.P. and 6,000 to 5,500 B.P., separated by an interval of increased moisture and local mountain glaciation. This interval would have allowed a successful habitation of the lower peripheral plains, plateaus and basins.

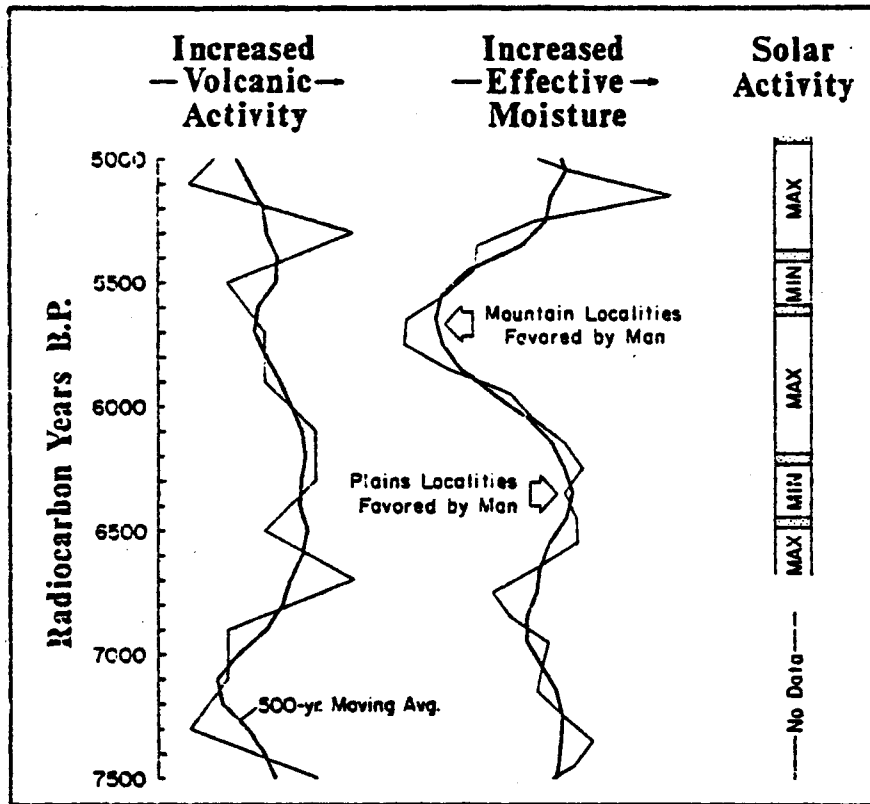


Fig. 3-12: Correlation of volcanic activity to moisture changes and shifts in location of human populations. (Benedict 1981)

Benedict has found interesting correlations between increased volcanic activity, increased effective moisture, and increased solar activity during this time, as a possible explanation for the Altithermal (Benedict 1981).

Within the archaeological community, opinions on the existence of the Altithermal, much less its extent and severity, are strongly divided. It appears to some observers that there may have been more occupation and activity on the plains during the Altithermal than was previously supposed (Reeves 1973). Without denying climatic irregularities, others would argue that the concept of the Altithermal is oversimplified and should be replaced (Bryson, Baerreis and Wendlund 1970). However, the Archaic is yet to be totally understood, and for that reason, final judgement on the entire environmental reconstruction needs to be held in abeyance pending further research.

If the "mountain refugium" model of Benedict is true, and he does have good evidence from Colorado's alpine, then one might expect the Black Hills to also have a comparatively high number of Altithermal, or Early Archaic sites. In fact, a recent study has shown just the opposite. Alice Tratebas,

in a draft of her forthcoming dissertation on the archaeology of the Black Hills, has stated, "The present evidence shows the lightest use of the mountain uplift during the Altithermal (Tratebas n.d.). This is in addition to a lack of Clovis and Folsom.

Of those Early Archaic sites known from the Black Hills, perhaps the most thoroughly investigated one is Hawken, an arroyo bison trap on the western flank of the Hills, south of Sundance, Wyoming (Frison et al 1976; Frison 1978). Radio-carbon dates from Hawken are 6470 ± 140 and 6270 ± 170 B.P., placing it well within the Early Archaic. Frison, in interpreting the evidence, sees the bison as having been driven at a high rate of speed up the arroyo, in order to prevent them from turning around and escaping. Hunters along the route were stationed to direct the animals up the correct fork of the arroyo. Once well into the trap, they were killed with spears.

Nearly 300 projectile points were recovered at Hawken, along with the butchered remains of at least 61 bison.

A similar concentration of butchered bison bones were found in an adjacent arroyo, dating 6010 ± 170 B.P., and named Hawken III (ibid).



Fig. 3-13: Arrow points to location of Hawken site excavations. (Frison 1978, courtesy of Academic Press Inc. © 1978).



Following the Early Archaic is the Middle Archaic, dating between ca. 4,500 to 2,000 B.P. Present archaeological evidence in the Black Hills indicates that peoples of the Middle Archaic used this region more than any other group (Tratebas n.d.).

The type site for a major Middle Archaic group is the McKean site, on the northwest edge of the Black Hills (Mulloy 1954). Although this site was not dated during its initial excavation, McKean sites elsewhere range primarily from 3,000 to 4,000 B.P., with some falling both younger and older than that (Frison 1978:47).

Fig 3-14: A projectile point from Hawken. (Frison 1978)

The McKean Complex includes three projectile point styles. These are the McKean Lanceolate, the Hanna and the Duncan (Wheeler 1952, 1954).

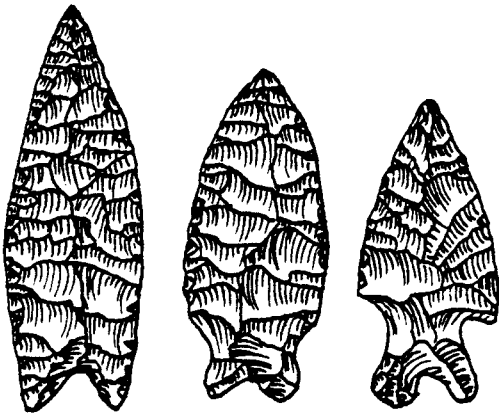


Fig. 3-15: (left to right) McKean Lanceolate, Duncan, Hanna points

One of the best known Middle Archaic sites in South Dakota is the Gant site, a Northern Hills occupation having McKean Lanceolate, Hanna and Duncan points in the assemblage. It was discovered during a survey of the Interstate 90 route in the 1960's (Gant and Hurt 1965).

The Late Archaic began about 3,000 years ago, and is marked by an increase in large corner-notched points, such as Pelican Lake, and large side-notched points, like Besant points (Wettlaufer 1955; Wettlaufer and Mayer-Oakes 1960; Frison 1978).

Within the Black Hills, Late Archaic points have not been well-defined. There has been some recognition of an association of these sites with keeled scrapers, though, thought perhaps to be evidence of woodworking (Tratebas n.d.).

Accumulated data from Archaic sites across the plains, including the Black Hills, indicates an increased efficiency in foraging over the preceeding Paleo-Indians. Their broader use of plants and animals was at least partially in response to the changing post-Pleistocene environment.

Archaeologists have generated many questions about the Archaic in the course of their investigations. Projectile point styles, although often distinctive, only tantalize the observer with hints of cultural

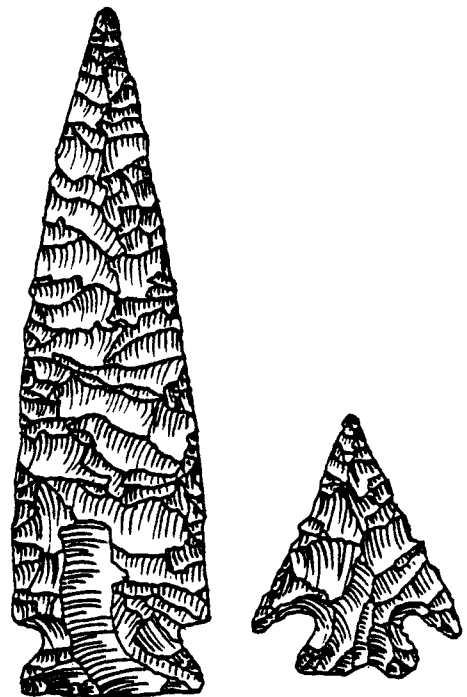


Fig. 3-16: (left) Besant point; (right) Pelican Lake point (Frison 1978:219).

connections between geographical areas. And when a connection can be made, the interpretations can vary dramatically. Would a similar artifact from the Black Hills, a western Montana valley, and a plains of Nebraska indicate a migration of the same peoples, an ideological influence, trade patterns, or perhaps independent inventions of the same style? Artifact identification is only a first step in lengthy research efforts aimed at understanding the past.

One of the thorniest problems concerning the Archaic is the nature of the climate and its effects on the resident hunters and gatherers. Clues have been found, but much remains to be discovered. The "mountain refugium" hypothesis that seems to have supportive evidence in some western regions, does not appear to hold for the Black Hills. It should be noted that the Black Hills do differ from the Rocky Mountains, in that even in the cooler climate of today (in relation to the Altithermal) the Black Hills does not retain permanent snowbanks, and water produced by such snowbanks would have lured a population under stress on the dry plains. The Hills are not as dramatically different in altitude from the surrounding prairies as are the Colorado Rockies. The questions thus remain, where were the Early Archaic foragers of western South Dakota or is there an incomplete site record?

Whatever the answer, by A.D. 1 the way of life was beginning to change in the east. Influences were filtering up the Missouri River, the first wave of pottery makers and farmers that were to dominate the Missouri Trench and the East River area of South Dakota for the next 1,700 years.

THE POST-ARCHAIC

Terminology Problems

Before proceeding further with Black Hills prehistory, it is appropriate here to deal with some taxonomic problems that result from the fact that the Black Hills are located between the Northwestern Plains of Wyoming and the Middle Missouri culture area of central South Dakota.

The open and drier Northwestern Plains were the abode of groups who survived with a foraging lifestyle from Paleo-Indian times right up until the prairie became dominated by Euro-American society. The prehistoric cultures along the Missouri River appear to have been much the same until perhaps A.D. 1 or later. It was then that evidences of incipient horticulturalists began to emerge along that major drainage of the Northern Plains, having filtered west and north from the Mississippi River area. Their remains along the Missouri River Tranch and on the East River region are known as Plains Woodland. In relative terms, Woodland sites are quite meager in number, as well as content, when compared to the subsequent cultural tide that flowed

upriver in the form known to archaeologists as the Plains Village Tradition, a time for the building of massive earth-lodge villages (some fortified) on the high terraces overlooking the Missouri River. They farmed corn, beans and squash along the fertile and well-watered bottom lands.

Archaeologists working along the Missouri have delineated these cultures into various traditions and subdivisions, such as Middle Missouri and Coalescent (Lehmer 1971). There is ample evidence for the classification systems developed there.

Major Cultural Tradition (Pattern)	Tradition	Variant	Dates
Plains Village	Coalescent	Disorganized	1780-1862
		Post-Contact	1675-1780
		Extended	1550-1675
		Initial	1400-1550
	Middle Missouri	Terminal	1550-1675
		Extended	1100-1550
		Initial	900-1400

Fig. 3-17: Post-Woodland cultural traditions and variants in the Middle Missouri (Lehmer 1971:33).

On the other hand, the majority of archaeological findings several hundred miles to the west reveal a long continuum of hunting and gathering in a land ill-suited for horticulture and sedentism. This led to a separate, less-complex taxonomy, with the post-A.D. 500 period being designated the Late Prehistoric (Mulloy 1958; Frison 1978).

If one were to stick to fieldwork either along the Missouri Trench of South Dakota, or on the Northwestern Plains of Wyoming, there would not be any great difficulty involved in fitting new archaeological finds into the currently accepted cultural scheme for those areas. However, the Black Hills location, intermediate to these two culture areas, and with its distinctive topography, well-watered valleys, rich in wild game and with lush vegetation, was a magnet to groups from all directions. The scholar of Black Hills prehistory is thus caught between the East and the West, trapped by taxonomic schemes unintended for such a cultural transition zone.

The typical solution generally adopted by most prehistorians working in the Black Hills has been to adopt the term Late Prehistoric for all post-Archaic finds, and then if any pottery or other Eastern evidences are identified, classify the discovery into various periods, such as Plains Woodland, under the umbrella of the Late Prehistoric Tradition (although period or tradition are seldom stated). This may be acceptable, except that the Plains Woodland Period is more properly classified beneath the Woodland Tradition, not Late Prehistoric (Cassells 1983:260).

As can be seen, there are taxonomic difficulties that need to be solved in the Black Hills. The orientation of the investigators have, in the past, determined whether they chose Middle Missouri terminology or Wyoming's Northwestern Plains terminology. More often it has been the latter, and usually that has not been a problem, as pottery, horticulture or substantial villages are seldom identified. Thus, the more generic Late Prehistoric has aptly described the find — an aceramic, post-Archaic (e.g. bow and arrow) occupation. The biggest problem that can arise in the publication of Black Hills data is the possible glossing over of Woodland or Plains Village site by lumping them in the Late Prehistoric without adequate explanation as to their eastern affiliations. So long as sufficient descriptions are made, and comparisons to legitimate counterparts carried out, confusion can be kept to a minimum.

The Plains Woodland

Significant regional distinctions appeared during post-Archaic times as traits from the eastern Woodlands began to infiltrate the plains (Kivett 1952; Neuman 1975). Because there is no real evidence for an in-migration of Hopewellian peoples (the Middle Woodland culture of Illinois — the core of Woodland society), it is suspected that the trading sphere from the eastern nucleus encompassed the plains. Thus, cultural change was brought about by diffusion, a latent function of economic pursuits. The Plains Woodland Period is first evident in the Missouri River region of South Dakota ca. A.D. 1 (Lass 1981). The original Woodland of the Ohio, Illinois and Mississippi valleys was highly advanced in both a technological and social sense. Archaeological research points to a horticulturally-based and socially stratified population having widespread trade connections. There is no indication that the Plains Woodland adopted the entire exotic culture. Instead, there are forms of a few significant Eastern qualities (e.g. semi-sedentism, cord-marked pottery, burial mounds) in plains states. As might be expected from diffusion, there is the tendency to decline in core area content proportionately as distance increases from the point of origin. Thus, the Plains Woodland can be seen as a somewhat degenerated version of the Eastern type, or could be viewed as having its own identity.

The Plains Woodland in South Dakota is best known from burial mounds. The earliest Woodland there is termed the Loseke Creek Complex, with the best excavated examples being the Scalp Creek and Ellis Creek sites (Hurt 1952). Cultural remains include conical and rounded pottery (cord-roughened or impressed exteriors), side-notched points (made with Bijou Hills quartzite from a nearby quarry), storage pits, and primary flexed burials in mounds. These sites seem to have been used until ca. A.D. 800.

The Sonota Complex is located farther to the north on the Missouri (Neuman 1975). Much of the knowledge from Sonota comes from their mounds. Principal sites include Boundary Mounds, Grover Hand, Stelzer, Arpan and Swift Bird. No actual horticultural evidence has been found with them. Buffalo hunting on a large scale is assumed, based on the quantities of bone present. Burials tend to be secondary (often bundle), structures are circular (based on postmolds), and pottery (conoidal and cord-marked or plain) is a probable late addition to their material culture. Raw material for stone tools includes local cherts from gravels, in addition to Knife River Flint (from North Dakota) and obsidian (from Yellowstone). It is quite possible that these materials provided them with worthwhile trading materials for Hopewell groups to the east.

The third Woodland type identified in South Dakota, the Dakota Mound Complex, is known primarily from the Sisseton Mound excavation (Sigstad and Sigstad 1973). It is located in the northeastern portion of the state. Large quantities of bison remains here may reflect affinities to the Sonota Complex to the west. Dakota Mound sites may date as late as A.D. 1150.

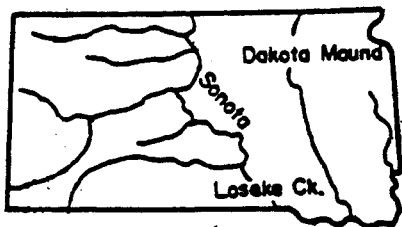


Fig. 3-18: Distribution of known Woodland complexes in South Dakota.

Some confusion with possible Woodland sites may occur in eastern South Dakota, as catlinite pipes and birchbark have been found in newer mounds, probably having either Assiniboin or Sioux origins. (Lass 1981:4).

Woodland culture is far less represented in the Black Hills. Some cord-marked pottery has been excavated from Stevens Rockshelter on the southern edge of the Hills, along with small corner-notched and side-notched projectile points. The project was undertaken in the 1930's as part of WPA work in the area (Meleen and Pruitt, Jr., 1941).

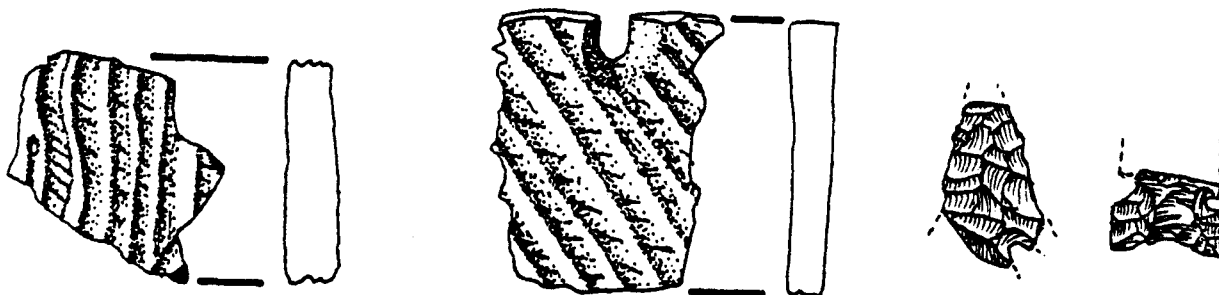


Fig. 3-19: Cord-marked Woodland pottery and probable Woodland projectile points from the Stevens Rockshelter on the southern edge of the Black Hills.

It has been suggested that western South Dakota, to include the Black Hills, was the domain of Pelican Lake and Avonlea cultures during Woodland times (Lass 1981:5; South Dakota Archaeological Research Center 1976:6). These conclusions were based on small samples of certain projectile point styles, and may be premature.

The Plains Village Pattern

About A.D. 800, a climatic episode known as the Neo-Atlantic brought more rainfall and a lower average temperature (Baeris and Bryson 1965). This provided a more conducive climate for crop production, and what eventually followed was the Plains Village Pattern or Tradition. As in the case of the Plains Woodland, this culture on the plains was a diminished (or at least different) form of the eastern prototype. The nuclear area, Cahokia (near modern St. Louis), held a massive concentration of people, all practicing a complex culture known as Mississippian (Moorehead 1928; Jennings 1968). They were socially stratified, and were highly dependent upon domesticated crops. Their influence spread along the primary waterways, entering the plains via the Missouri River, though there is some evidence for overland connections across Iowa and Minnesota.

Great Oasis Culture

The first hint of this pattern comes ca. A.D. 900 with a culture known as Great Oasis (D. Henning 1971; E. Henning 1981). It is generally considered to be a part of the Initial Middle Missouri Variant, or at least to be a bridge between the Late Woodland and subsequent Plains Village peoples (Ludwickson, Blakeslee and O'Shea 1981:139). The core area for Great Oasis is in northwest Iowa, though it has wide distribution (L. Alex 1980). Known architecture consists of large rectangular lodges. Pottery tends to have incised lines rather than Woodland-type cord impressions. Whether or not they were complete Mississippian is yet to be determined. A hypothesis has been forwarded by Henning (1981:33-37) that they were horticultural consumers, not producers. If this was true, their trade interaction with neighboring farming groups

would have been critical to their economy. Woodland traits outweigh those of the newer Mississippian, leading to the conclusion that Great Oasis is an in situ development out of the Woodland, rather than a major population influx from the Mississippi Valley. A great deal more research is needed to answer all the questions surrounding its development and external relationships.

Mill Creek Culture

Mill Creek (ca. A.D. 1000-1400) marks the beginning of a heavier Mississippian influence. From this point on, horticulture is not disputed. Sites tend to cluster along the Lower Big Sioux and the Little Sioux of Iowa, with some spillage over into southeast South Dakota. There seems to be little argument about Mill Creek being part of the early Middle Missouri Tradition, overlapping in time with Initial Middle Missouri (though a distinction is made here, Mill Creek could be considered a branch of Initial Middle Missouri). However, there is no resolution to the question of Mill Creek origins. It may be an in situ evolution out of Woodland, or may be the result of direct colonization from eastern Mississippian centers. Houses are generally rectangular, and are in unfortified villages. Ceramics from Mill Creek sites can be smoothed-over cord-roughening and may be polished. Incised lines and punctations do occur on some rims. Loop handles have been observed. Body surfaces may be covered with red slip or black paint. Typical vessel forms include bowls, flat "pans", jars and ollas with variable neck shapes. Effigy pots are also part of the assemblage (Orr 1963; McKusick 1971; Ives 1962).

Initial Middle Missouri Variant

In South Dakota, Plains Village populations became true Middle Missouri Tradition with the Initial Variant ca. A.D. 100. To the south, in Nebraska, various Central Plains Tradition Phases began to arise at about the same time (Upper Republican, Nebraska, and Smoky Hill). All of these cultures had at least some examples of large villages composed of square or rectangular semi-subterranean earth lodges. Ceramic styles do differ between them as well, according to vessel shape, decoration and temper. However, when compared to pottery of previous or subsequent cultures, they bear more resemblance to each other. Horticulture was practiced to some degree by all.

In South Dakota, the Initial Middle Missouri Variant is found along the upper Big Sioux, the lower James and along the Missouri in the Big Bend vicinity. Some large villages (100 houses) are known, containing rectangular structures with variable post arrangements. Fortifications are present in roughly half these sites. Examples of the Initial Middle

Missouri include the WPA-excavated Mitchell site (Meleen 1938; Alex 1973), Brandon (Over and Meleen 1941) and the Jiggs Thompson site, excavated during River Basin Surveys work on the Big Bend Reservoir construction (Caldwell and Jenson 1969). Initial Middle Missouri burial remains are poorly known, although some mounds have been identified (Meleen 1938). Ceramic classification of the Initial Middle Missouri is complicated by two conflicting systems (Ludwickson, Blakeslee and O'Shea 1981:152). Shell tempering is known, decoration includes incised or cord-impressed rims, some trailed or incised lines are on shoulders, and vessel shapes include flared, S-shaped or vertical rims (Lehmer 1971).

The Smiley-Evans site, on the north edge of the Black Hills near Sturgis, is an unusual example of off-river Initial Middle Missouri Variant (L. Alex 1979; R. Alex 1981). Dated A.D. 900 \pm 70, the site appears to be a small village with a fortification ditch and stockade line with a bastion or defensive tower.



Fig. 3-20: Three sherds from Smiley-Evans, 39 BU 2.



Fig. 3-21:
Point from
Smiley-Evans.

As of now, there are still many questions to be answered about Smiley-Evans. There is little evidence for any farming at the site. Was it a small group of Missouri River villagers who relocated to the west, or were they a local band who maintained contact with the east, and just adopted a few of their traits? The site has been only partially excavated, and it is possible that these and other questions can be answered in the future.

Another interesting occurrence of off-river Plains Villagers is the Phelps site, 39 CU 206, located east of the Hills near Hermosa (Alex and Zimmerman 1979). The site was exposed in 1930 by Mr. and Mrs. Walter Phelps when they were digging a basement near Battle Creek. Sherds found there resemble Initial Middle Missouri types. Trade goods included dentalium from the Pacific Ocean, conch shell from the Gulf Coast, and obsidian, perhaps from Wyoming. The large collection has since been donated to the

South Dakota Archaeological Research Center.

As with Smiley-Evans, a number of question arise as to the status of the Phelps site inhabitants. Whether they were sojourners from the Missouri, or locals with a number of trade connections cannot be determined at this time. Unfortunately, there is little chance that anything is left at the site now. The fact that both of these ceramic sites exist along the Hills does allow for hope of further similar discoveries to help fill the picture.

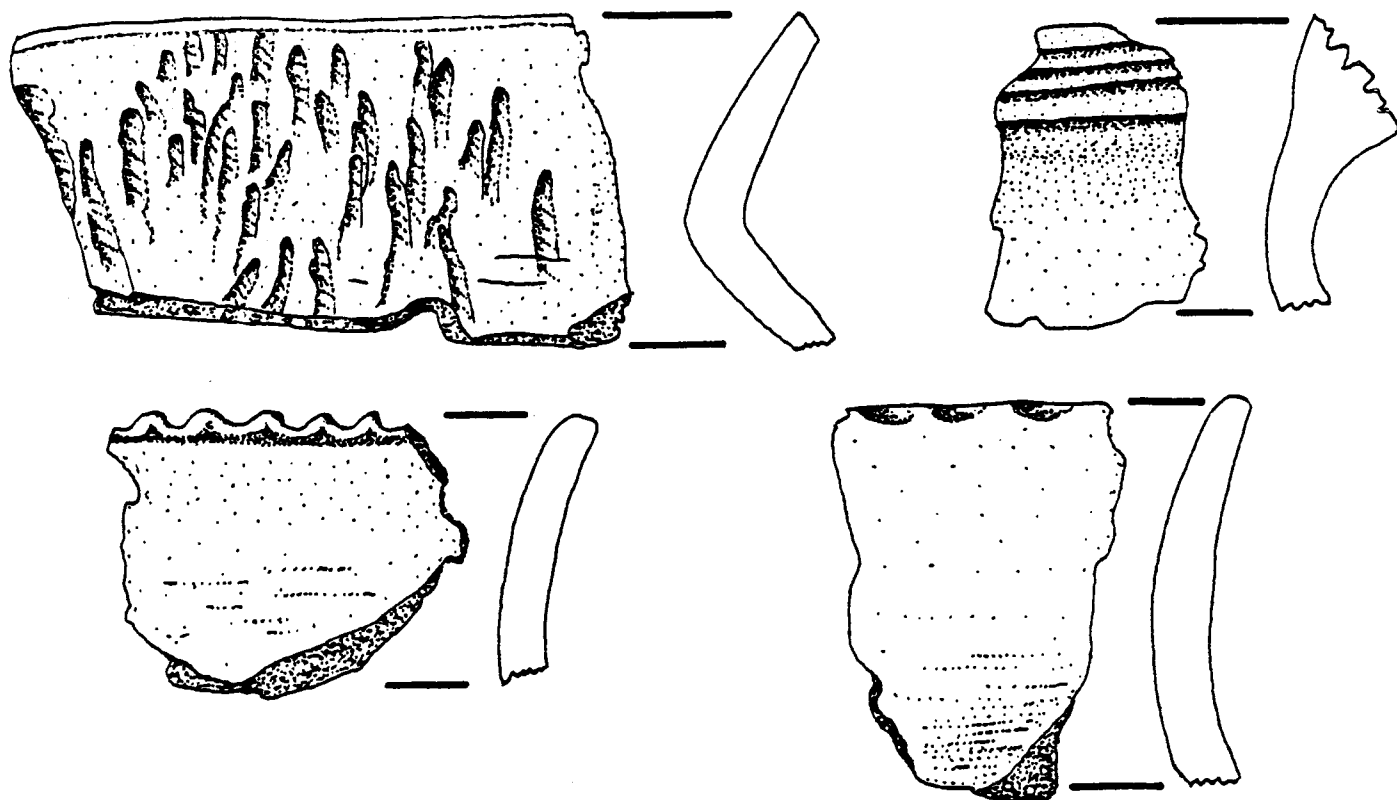


Fig. 3-22: Sherds from the Phelps site.

At one time, a category known as the Over Focus was considered a part of the Initial Middle Missouri. The term has now been generally eliminated from the literature. Some have suggested that it really can fall within Mill Creek (Baerreis and Alex 1973).

The Initial Coalescent Variant

By A.D. 1250, movements from the Central Plains core area were beginning to take place. It may have been due to the onset of the drier and warmer Pacific Climatic Episode (Hoffman and Jones 1970), perhaps forcing these peoples into the plains periphery. Whatever the catalyst, Central Plains

traits began to appear along the Missouri River in South Dakota, blending with Initial Middle Missouri, and forming the resultant Initial Coalescent Variant. Bob Alex (1980) has reported a possible Central Plains village on the White River of South Dakota, perhaps an example of this early migrant population out of Nebraska.



Fig. 3-23: Distribution of Middle Missouri, Mill Creek and Great Oasis cultures (left) and Coalescent (right).

In South Dakota, these Coalescent sites have rounded houses within fortifications. The population density is generally intermediate between the Low Central Plains and the high Middle Missouri. Ceramics include the use of cord-roughened exteriors (Central Plains trait) and stamping (Initial Middle Missouri trait). The presence of fortifications is not the only evidence for rising hostilities between villages. At Crow Creek (Kivett and Jensen 1976), there was a discovery of the disarticulated remains of 486 people that were killed in a massacre ca. A.D. 1300 (Zimmerman and Whitten 1980). Other excavated examples of Initial Coalescent include Arzberger (Spaulding 1956) and Black Partizan (Caldwell 1966).

It may be that the Coalescent originated solely in South Dakota, followed by a move into Nebraska by some. However, it may be the case that there was always high movement between the two, and that the Coalescent was nearly a simultaneous development. At this point, though, no good transitional sites are known from Nebraska.

The Extended Middle Missouri Variant

While the Initial Middle Missouri Variant and Initial Coalescent seemed to be concentrated in the Big Bend region, the Extended Middle Missouri Variant began to develop farther north between the Cheyenne-Bad River mouths and along the North Dakota-South Dakota border. There are some similarities between Initial and Extended, and indeed Extended probably developed out of Initial. Stamping, which began late with the Initial, continued with the Extended. Both had fortifications and large villages. Evidence of violence during the Extended was found at Fay Tolton, where three individuals

were on a burned lodge floor, the adult having been pushed into a cache pit with the head and shoulders above floor level (Wood 1976).

Oneota

While the Coalescent was establishing its own identity in South Dakota and Nebraska, Oneota appears to have entered the region via Iowa, perhaps as Mill Creek had done a few centuries earlier. Oneota is thought to have developed from the eastern Woodland ca. A.D. 900 (Mason 1981:355). Oneota probably made its way out of Wisconsin and Illinois and onto the plains sometime in the 13th Century. Oneota houses are round or rectangular. Burial mounds are common only in early Oneota, with individual primary extended burials later. Some secondary burials also occur. Typical pottery takes the form of short, round-bottomed, flaired jars. Shell tempering is usual, along with paired handles. There are many types of incised and impressed designs (chevrons, circles, parallel lines) on jar shoulders, lips and handles (Mason 1981; Ludwickson, Blakeslee and O'Shea 1981). Included in excavated sites of Oneota affiliation is Blood Run, in the extreme southeastern corner of South Dakota (Harvey 1979).

The Extended Coalescent and Terminal Middle Missouri Variants

About A.D. 1550, with cooler summers beginning (Neo-Boreal Climatic Episode [Hoffman and Jones 1970]), the Initial Coalescent peoples expanded their territory into land occupied by Extended Middle Missouri villagers. In response, the Extended Middle Missouri groups moved farther north, compressing near the North Dakota-South Dakota border. The Initial Coalescent peoples thus became the Extended Coalescent, while the Extended Middle Missouri became the Terminal Middle Missouri (Lehmer 1970:125-28).

Extended Coalescent is quite similar qualitatively to Initial Coalescent, though there is a trend toward fewer fortifications and a great increase in the distribution and actual numbers of Extended Coalescent villages (Lehmer 1971:115). Houses are smaller than the contemporaneous Middle Missouri types, and pottery included T-shaped and inverted L-shaped rims and plain or simple stamped exteriors. Near the end of the Extended Coalescent, there was an increase in fortifications, perhaps in response to a Siouan presence (Zimmerman 1975:16). An example of such is Scalp Creek (Hurt 1952).

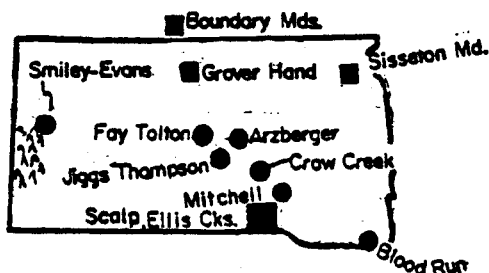


Fig. 3-24: Location of some Woodland (■) and Plains Village (●) sites.

Terminal Middle Missouri sites (ca. A.D. 1500-1675), developed along the North Dakota-South Dakota border, are concentrated into a very limited area, as opposed to the widespread Extended Coalescent. The Terminal peoples built long, rectangular lodges and produced pottery with S-shaped rims. Decorations include incised lines and chevrons (Lehmer 1971).

Thus far, there are no known Extended or Middle Missouri sites, or any Coalescent sites in the Black Hills. The Extended Coalescent is known to be broadly distributed, and there is no reason to suppose they did not follow the Cheyenne River headward. However, the best evidence for westward Coalescent expansion is the O.K. Ranch site, located along the White River near Crawford, Nebraska (Cassells and Agenbroad 1981:57). The site had been totally bladed away prior to its being reported to Larry Agenbroad, then of Chadron State College. A surface collection of the sherds by John Ludwickson of the Nebraska State Historical Society led to the conclusion that the thin, bone-tempered pottery was an important example of Extended Coalescent, nearly 250 miles upstream from the Missouri (John Ludwickson, personal communication).

It is quite likely that a number of Plains Village hunting parties would have entered the Black Hills region on a seasonal basis. However, it is assumed that most small, highly mobile groups, probably composed of men alone, would not be transporting pottery, and the small notched projectile points they would have used are not that diagnostic by themselves. As a result, any of their sites found during modern archaeological research would probably just be classified as either a culturally unaffiliated lithic scatter, or a transient Late Prehistoric manifestation.

The Late Prehistoric

The difficulties of merging two taxonomies in a region where overlap from the two cultural areas takes place has already been discussed. Although I feel that the term Late Prehistoric is too general of a classification for the peoples here, there does appear to be a difference between the post-A.D. 500 cultures of the Missouri Trench, with their Eastern practices, and the more mobile foragers of the intermountain West, who more resemble Desert Culture hunters and gatherers of the Great Basin and the Southwest. Until a more definitive designation can be made for these, the Late Prehistoric will have to suffice for the western post-Archaic.

The transition from Archaic to Formative (Willey and Phillips 1958) took place in the Missouri Trench during the years just following A.D. 1, with the addition of ceramics, horticulture and a more sedentary way of life beginning to take root. In the west, the change is not seen until ca. A.D. 500, and the evidence is much more meager. Primarily,

the change can be seen with a reduction in projectile point size, suggesting a switch from Late Archaic atlatl to the more efficient bow and arrow. In terms of actual lifestyle, it is doubtful that much cultural transformation occurred. The Late Prehistoric bands relied on wild game and wild plants for subsistence, moving periodically in search of food and other resources. Until the horse was acquired during the 1700's, these foragers were pedestrians, making their mobility all the more remarkable.

Bison hunting appears to have been a central focus for the Late Prehistoric people, and one of the better and more interesting of these is located on the northern edge of the Black Hills.

One of the common hunting techniques they used was to force bison over a cliff, disabling the animals so that they could be shot with arrows and killed. The Northwestern Plains have a large number of these sites, stretching from Wyoming into Montana, Idaho, and into Canada. Bison were often manipulated with the use of rock alignments and hunters, into running up to a mile or more along a predetermined course, until the proper jump-off point was reached. This activity would naturally have required considerable coordination and cooperation of hunters, and likely would have involved several bands who would join up for the periodic communal drives.

The particular site in the Black Hills of interest here is known as the Vore site, located between Sundance and Beulah, Wyoming. The site was discovered in a deep sinkhole in 1970 and



Fig. 3-25: Proposed drive route to the Vore Buffalo Jump sinkhole (Frison 1978, courtesy Academic Press, Inc © 1978).

excavated over the next two seasons (Frison 1978; Reher and Frison 1980).

The sinkhole (a karst feature) is a relatively restricted target, being only 30 meters in diameter, and would make it a difficult task to direct a moving herd of bison into it. Once there, its steep-sided walls and a depth of 50 feet would more than adequately disable the beasts.



Fig. 3-26: Exposed bone beds at the Vore site (Frison 1978, courtesy Academic Press, Inc. © 1978).

Exposed at the site were up to 22 separate levels of bison bones, all apparently laid down between A.D. 1500 and 1800. This would allow for at least the later groups using the Vore jump to be mounted on horses. Although there are a number of possible tribal or band affiliations that could have used Vore, it was not possible to make any assignments.

The majority of artifacts in the site were side-notched projectile points, some with basal notching as well. Butchering tools of both stone and bone, were also recovered in the various levels.

An analysis of the raw materials used by the Vore hunters indicates not only a utilization of local Black Hills quarries, but three

major localities at relatively great distance. These include quartzites from Spanish Diggings, in the Hartville Uplift, west of Lusk, Wyoming. Another type is porcellanite, found to the west along the Powder and Tongue River. Both of these localities are ca. 200 kilometers away. The third source is 300 to 350 miles to the north, where a high quality brown silicate known as Knife River Flint can be found (Reher and Frison 1980).

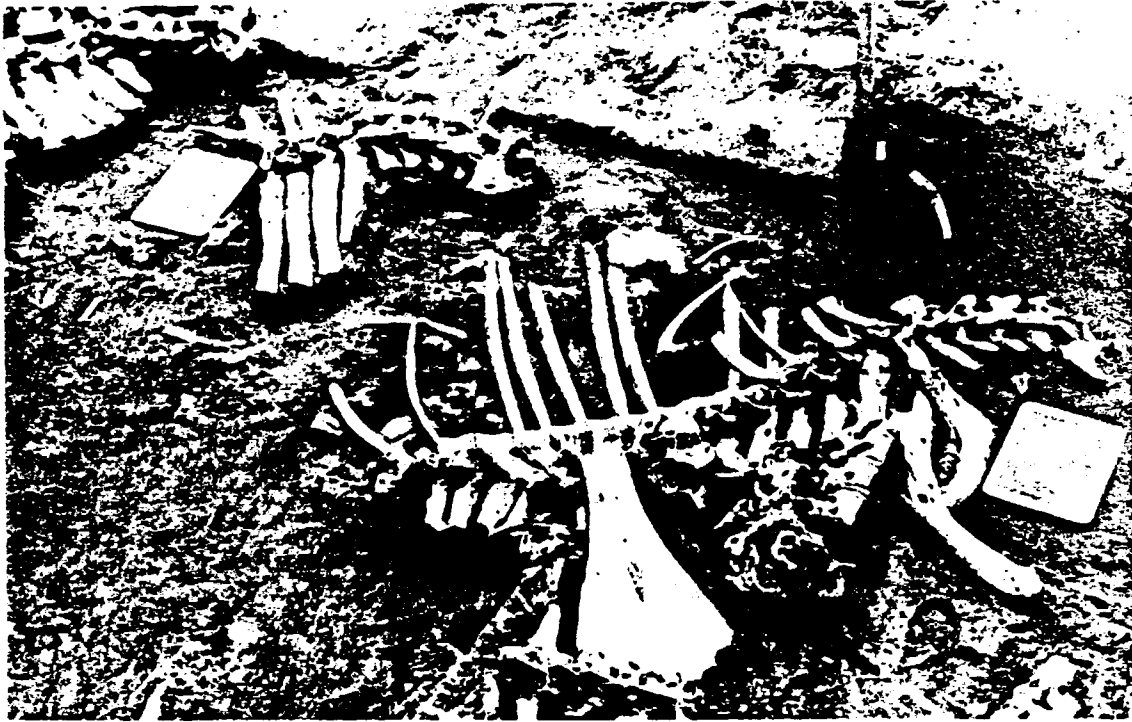


Fig. 3-27: Butchered bison carcasses at the Vore site (Frison 1978, courtesy of Academic Press, Inc. © 1978).

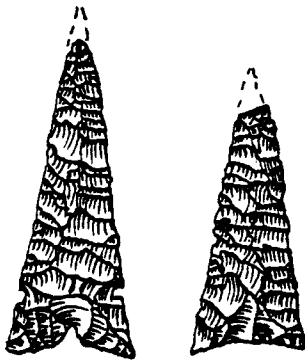


Fig. 3-28: Examples of projectile points from the Vore site (Frison 1978).

Based on a sample of mandibles excavated at Vore, it has been estimated that over 10,000, and perhaps up to 20,000 bison were killed at the site during a 300 year period. The depth of bones there is about 5 meters, with at least 22 separate kills having taken place. Based on the age of mandibles, the investigators determined that kills took place throughout much of the year, beginning in late fall and extending into the following spring and summer.

Although Vore cannot be seen as typical, it does provide ample evidence of hunting efficiency during the Late Prehistoric that extended over many generations of nomadic foragers.

SUMMARY

The prehistory of the Black Hills is marked with a long cultural heritage, primarily of the foraging pattern. This "island in a prairie sea" held a variety of resources (lithics, game, plants, lodge poles) that continued to be attractive to

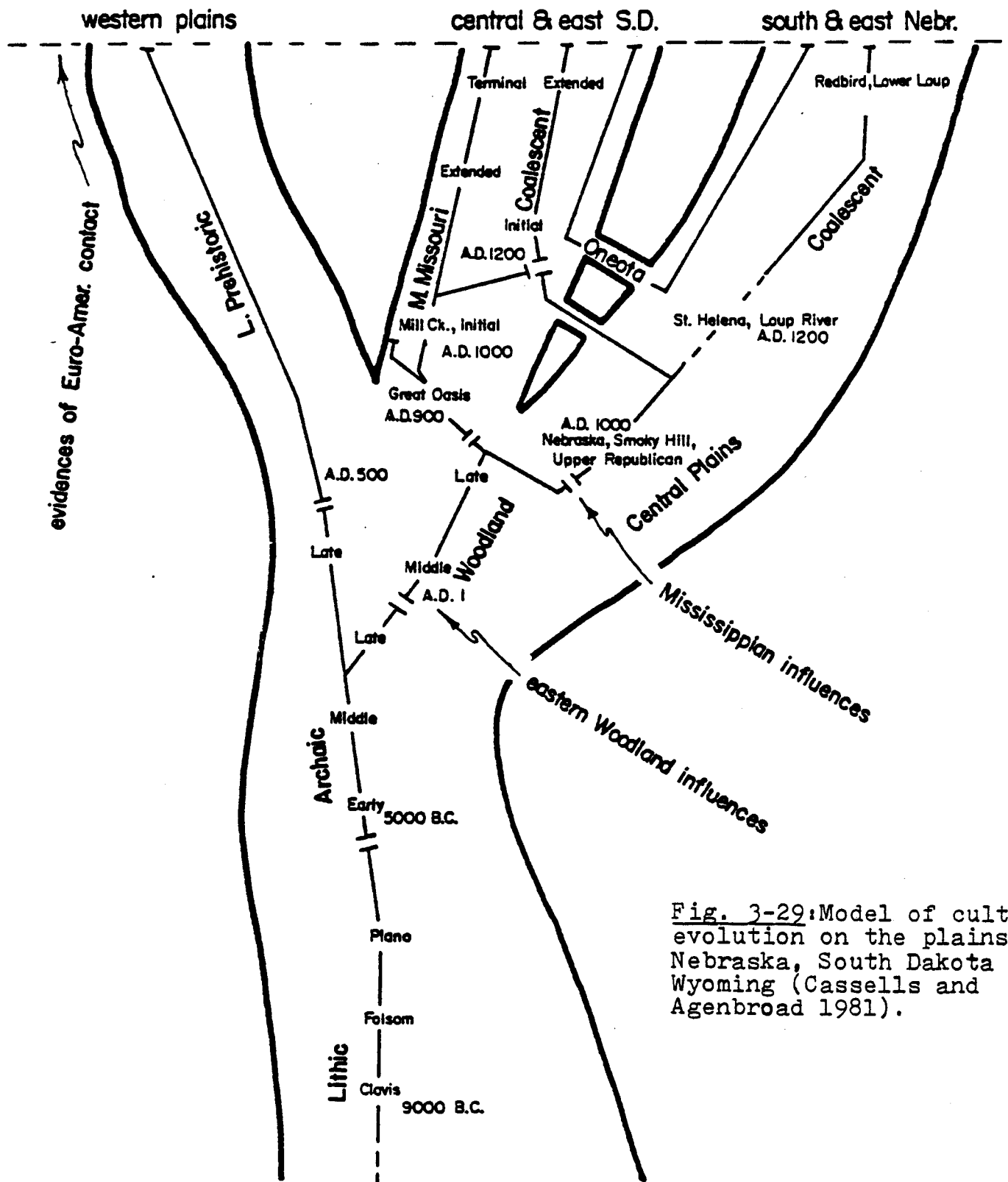


Fig. 3-29: Model of cultural evolution on the plains of Nebraska, South Dakota and Wyoming (Cassells and Agenbroad 1981).

early Native Americans for over 10,000 years. With restrictive climatic conditions and a strong hunting and gathering tradition, horticulture does not appear to have gained a foothold. With a few known exceptions, the Eastern village societies seemed to have maintained their permanent settlements along the Missouri River, perhaps exploiting the Hills on a seasonal basis, much like their forager contemporaries.

The aboriginal cultural continuum extended right up until the ratification of the 1876 Agreement that "legally" gave ownership of the Hills to the federal government.

4 Prehistoric Data from the Forest

INTRODUCTION

Sustained, intensive archaeological investigations of the Black Hills National Forest really did not begin until the mid-1970's. Prior to then, some work had been carried out in limited numbers around the Hills, though very little of it was actually on Forest land. The WPA excavations of a few southern Hills rockshelters (Meleen and Pruitt, Jr. 1941), the Angostura Reservoir salvage work (Hughes 1949), the excavations of the McKean type site (Mulloy 1954), and the Gant site work along the I-90 route (Gant and Hurt 1965) are the bulk of Black Hills work prior to 1970.

During the 1970's, a building momentum of archaeological work began to take place within the Black Hills National Forest, due to a combination of factors.

In 1971, President Nixon signed Executive Order 11593 (Protection and Enhancement of the Cultural Environment), directing federal agencies to inventory their lands for historic properties, nominate those eligible to the National Register of Historic Places, and insure that eligible properties are not inadvertently damaged or destroyed.

John S. (Steve) Sigstad became Curator of Anthropology at the W.H. Over Museum in Vermillion, and he served as a catalyst for much of the upsurge in archaeology in the state for at least the next seven years. He organized the South Dakota Archaeological Society (for avocationalists) in 1969-70. He reactivated the State Archaeological Commission at the same time, bringing needed funding into South Dakota archaeology. In 1973, the Commission was disbanded, and Sigstad became the state's first State Archaeologist, established and funded by the legislature. The following year the legislature passed a state antiquities law to protect sites on both public and private lands. The South Dakota Archaeological Research Center was moved from Vermillion to its present location at Fort Meade, near Sturgis, in 1974 (Fig. 9-18). This put full-time archaeologists permanently in the Black Hills. In 1976, Sigstad resigned as the State Archaeologist, moving to his present position as Regional Archaeologist for the U.S. Forest Service in Denver, where he manages cultural resources over a five state area, including the Black Hills National Forest. His replacement was Robert Alex, who retains the post to this day.

An increase in Black Hills mining during the 1970's (with permits controlled by the State Conservation Commission) brought the South Dakota Archaeological Research Center into the picture to a significant extent.

In 1976, the Council of South Dakota Archaeologists was formed as the need for statewide cooperation and communication between professional was recognized.

In 1977, the Black Hills National Forest hired John Slay as their Forest Archaeologist, and Slay began to organize cultural resource management on the Forest.

Wyoming's legislature established their office of the State Archaeologist in 1967, and the position was assumed by University of Wyoming anthropology professor, George Frison. He held that appointment until 1984, when it was turned over to Mark Miller. State site files have been maintained at the state office on the university campus at Laramie. In 1979 the professionals of Wyoming formed their own society, the Wyoming Organization of Professional Archaeologists, and they function as a collective body that provides input into archaeological business within the state (Dave Eckles, personal communication).

The cumulative effect of all these occurrences (Helgevoid 1981:67-76) brought about the impetus for the current high intensity of cultural resource investigations on the Black Hills National Forest. As a result, a total of 631 reports have been generated, 544,264 acres of land have been surveyed (including both Level I and Level II coverage), and a total of 1,655 sites (1,011 prehistoric, 644 historic) have been identified and plotted through December of 1983.

Given that quantity of systematic survey, along with limited excavation, it might be expected that our knowledge of the prehistory of the Black Hills and the Black Hills National Forest would essentially be complete. This is not the case. There do seem to be some holes in the cultural sequence, and the question remains whether the gaps are reflective of reality, or a bias in either sampling, preservation or exposure. In addition, since a principal thrust of federal involvement in cultural resource management is toward conservation whenever possible, the multitude of acres yet unsurveyed (roughly one-half million) will remain as a task to be accomplished in the coming years.

PALEO-INDIANS

As noted in Chapter 3, two obvious gaps in the Black Hills culture sequence are the lack of Clovis and Folsom sites. These are known from the Badlands to the east (Hannus 1984), and from the Powder River Basin to the west (Frison 1984). It is true that such finds are rare even in the richest of Paleo-Indian locales. However, it seems unusual that the Black Hills lack the most minimal of evidence. At this point, I am not ready to concede that Clovis and Folsom peoples did not enter and exploit the relatively abundant resources of the Black Hills. Should the remainder of the Black Hills National Forest be surveyed with no evidence of them, then perhaps it might be appropriate to suggest that early Paleo-Indians did not find the Black Hills as attractive as did subsequent groups.

Plano

In contrast to the lack of Clovis and Folsom evidence, the most recent Paleo-Indian period, the Plano, is relatively abundant. There are a few Plano Complexes that are not presently known (Hell Gap, Agate Basin), but others have been found in a variety of settings across the Hills.

Perhaps the earliest Plano find in the Hills is the Trail Draw site (39PN97), located at the northern end of the central west Limestone Plateau. The Paleo-Indian is only known from the presence of an Alberta point, although a considerable assemblage of debitage and other lithics were present.

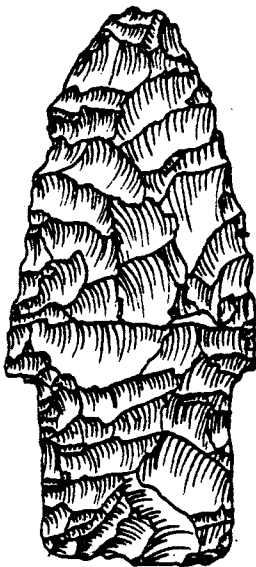


Fig. 4-1: Alberta point from the Trail Draw site.

Alberta was dated at the Hudson-Meng site in northwest Nebraska between 9,820 and 8990 B.P. (Agenbroad 1978). Trail Draw was discovered in 1975 during the survey for the Pole Creek I and II Timber Sale (Tratebas 1978). It was subsequently tested in 1978 (Tratebas and Vagstad 1979). An Alberta point and an Archaic point were found on the surface. No additional Alberta diagnostics were found in situ. Both the Alberta and Archaic points were made of Hogback quartzite, indicating local manufacture. Three bifacial knives (made from local materials) were recorded there (one in situ). Tratebas and Vagstad suggest an affinity to "Lime Creek knives" from Nebraska's Lime Creek site (Davis 1962). The Lime Creek knives may very likely be Paleo-Indian projectile point preforms. Hematite, a red mineral used aboriginally as a pigment, was observed at Trail Draw with some pieces having facets

from abrading. An interesting feature at Trail Draw was a single post mold found in Level 6 (30-35 cm.) that had a large cluster of bone along one margin of the hole. This bone has been interpreted as originally serving as a brace to tighten the post in the hole. If this post mold was a remnant of the Alberta occupation, it would indeed be a significant find, as Paleo-Indian structures are practically unknown in the New World.

The test at the site was inconclusive in determining an actual Alberta subsurface component, as no diagnostics were recovered in situ. There are charcoal and wooden post fragments that have been saved from the test, and their dating could perhaps shed light on the actual age(s) of the site. Only three one-meter test squares were originally opened. Perhaps future work there might expose diagnostics.

Many of the other Plano sites within the Black Hills National Forest fall into the point style category of parallel oblique flaked. These are lanceolate points with generally slight constriction toward the stem. Of the types elsewhere, Jimmy Allen and Fredrick are examples.

Between 1946 and 1950, an archaeological survey was conducted as part of the Smithsonian's River Basin Surveys. Although these surveys are best known along the Middle Missouri, the impending construction of Angostura Reservoir on the Cheyenne River south of Hot Springs justified a survey of the area to be inundated (Hughes 1949). Of the 66 sites found along the river, and the 17 located up in the Hogback and Red Valley, the one that stands out the most today is the Ray Long site (39FA65), a Plano camp along the river. From that site has come the type specimens of what subsequently was named the Angostura point (Hughes and White n.d.).

The point style is lanceolate with a slightly constricting stem and a concave base. The basal edges, as with most Paleo points, are ground. Often the flaking on Angostura points is parallel oblique, much like Allen. The date from the Long site is 9380 ± 500 , placing it early in the Plano sequence.

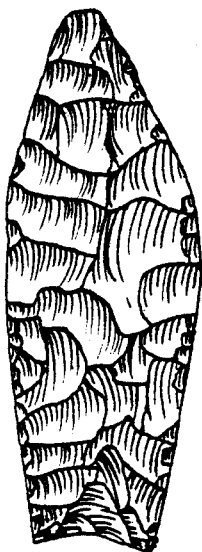


Fig. 4-2: An Angostura point from the Long site.

A problem with the Angostura type is that the form is so similar to other younger types (Allen, Fredrick), and its ubiquitous appearance on the plains may not really reflect a distinctive Plano type. A similar problem is encountered in typing points as Plainview, another general lanceolate form, though lacking oblique flaking. Regardless of the problem with Angostura identification, there is no doubt that it is a style from the Plano, and is often identified within Plano components within the Black Hills.

An example of this is the surface find of a red quartzite basal section from the Twin Sisters site, 39CU566 (Cassells 1981f).

This multi-component camp also containing Middle Archaic and Late Prehistoric materials and a number of stone rings of indeterminate age. The Paleo point is well made, with a bi-convex cross-section and heavily ground edges. Both basal ears were broken, as was the tip. Flaking was parallel oblique, and the point was well made. It may or may not be considered as an Angostura type.



Fig. 4-3: The Paleo point from the Twin Sisters site.

Another of the interesting Paleo-Indian sites on the Black Hills National Forest land is 39PN326, discovered in a roadcut in 1978 during a cultural resource survey of the Heely Creek Timber Sale (Eckles 1978c). The original work



Fig. 4-4: Two Lovell Constricted points from 39PN326, the Andoni site.

there defined an area 700 X 300 meters in a valley along Heely Creek, just below the Limestone Plateau escarpment in the Central Area. A total of 66 artifacts were discovered on the surface, including three Lovell Constricted points, and at least one other type of point dated elsewhere (Medicine Lodge Creek, WY, 9590 \pm 180 B.P. [Frison 1978:24, 30]). This other point has a narrow stem with a rounded base (discussed below with Ditch Creek). The Lovell Constricted point style, typed for a site near Lovell, Wyoming (Husted 1969), is known from several other Wyoming and Montana sites. Dates appear to run ca. 8300 to 8000 B.P. (Frison 1978:37). Lovell Constricted points are lanceolate in shape, with a constriction mid-stem that then expands at the base, giving a "fishtail" appearance. Edges are

basally ground. The early Andoni site appears to be the only known occurrence of Lovell Constricted points in the Black Hills. No excavations have taken place at this site yet.

The Ditch Creek site, 39PN90, is located near the Andoni site, on the western edge of the Central Area, near the Limestone Plateau. It was discovered during a survey of the Deerfield Reservoir area (Tratebas 1976), and was subsequently tested in 1977 by the South Dakota Archaeological Research Center (Tratebas and Vagstad 1979). Of interest here in the discussion of Paleo-Indians are five broad-bladed points with narrow rounded stems, comparable to a type from Medicine Lodge Creek (Frison 1978:30). There was another point of this type found on the surface of the Heely Creek site (above). Frison's date of 9590 \pm 180 B.P. indicates that this point (currently unnamed) is Paleo-Indian. The five points of this type at Ditch Creek appeared to be in close association with a hearth (Fea. 2), 10 cm. below ground surface. Charcoal from the hearth was collected but not dated yet.

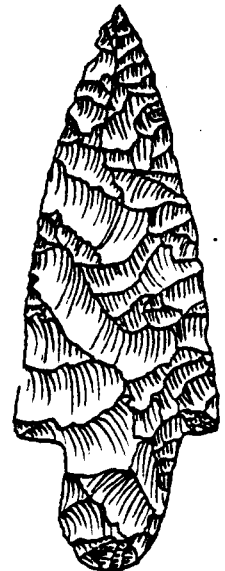


Fig. 4-5: A rounded stem point like those found at Ditch Creek and the Andoni sites (Frison 1978:30).

Alice Tratebas has conducted archaeological research in the Black Hills since the mid-1970's, and is considered one of the premier experts on the region's prehistory. She is currently finishing her Ph.D. dissertation on Black Hills archaeology, based on work on the Black Hills National Forest between 1975 and 1979 (Tratebas n.d.). She has kindly provided a draft to be used in the writing of this overview of cultural resources on the Black Hills National Forest.

Her analysis of Plano archaeology in the Black Hills suggests that foragers during late Paleo-Indian times only slightly used the southern Hogback and the central mountain uplift. Greatest presence seems to be on the western Limestone Plateau near low discharge springs. Principal tools at these sites on the Plateau are chisels and spokeshaves, suggesting the manufacture of wooden shafts. Bifaces appear to have been made there as well. Taken together, these indicate preparation for hunting. Those Plano sites on the Hogback of the southern Hills are few in number, but those that have been found indicate the manufacturing of stone tools. Few grinding stones were found in the Hogback sites, perhaps reflective of little camping/food processing, although a number of grinding implements were recovered from the Ray Long site along the Cheyenne River, not far to the south in the valley. With only limited work having been conducted in southern rockshelters, it is hard to say if that is where longer term Paleo-Indian habitation took place (Tratebas n.d.).

Tratebas has a firm grasp on lithic raw materials used in the Black Hills, and the sources from which they were quarried. She makes a case for movement of groups, based on these evidences.

Primary lithic materials used by Plano peoples include Spanish Diggings quartzite from the Hartville Uplift near Lusk, Wyoming, Knife River Flint from North Dakota, red cherts of local or Big Horns (phosphoria?) origins, and Flattop chalcedony from the Badlands to the east. Hogback quartzites were also exploited. With the exception of the most distant Knife River quarry, Tratebas sees the Plano foragers migrating to the Hills from the southwest and the east, based on the lithic materials. The Knife River Flint may have been acquired through trade networks (Tratebas n.d.).

EARLY ARCHAIC

There are no absolute Early Archaic sites known on Black Hills National Forest land. Projectile points, generally medium-sized side-notched forms, could overlap Late Archaic styles, and it is really necessary to have C-14 dates to confirm such a designation.

The Hawken sites, bison kills on the Wyoming side of the Hills (discussed in Chapter 3) are the only definite examples from the Black Hills, although Tratebas indicates there is a case for possible components at Ditch Creek (39PN90) and in the southern Hills at 39FA416 and 39FA422 (Tratebas 1979a; Haug 1977c).

On the basis of such slight information, much of it speculation at best, it is difficult to make any broad generalizations about Early Archaic peoples in the Black Hills.

It has been suggested (Tratebas n.d.) that Benedict's "mountain refugium" model for the plains during the Altithermal of Early Archaic times is not supported by evidence in the Black Hills. Indians of the region, according to the theory, would have concentrated in the cooler and wetter uplands during the period of dessication, and the Black Hills appear to have been the best candidate from the Missouri River to the Big Horns. Of all sites known in the Black Hills, Early Archaic evidence is nearly as absent as for Clovis and Folsom. In conversations with Jim Benedict, however, he offered the explanation for the Black Hills not being an ideal refuge, in that it was not that dramatically higher in elevation than the surrounding prairie (when compared to the 11,000 to 14,000 foot heights of the Colorado and Wyoming Rocky Mountains), and temperatures, though cooler than the prairie, would not have been sufficient to maintain year-round snowbanks. Thus, in extremely hot and dry conditions, the Black Hills might not have had sufficient water reserves to offer a satisfactory alternative to the plains (James Benedict, personal communication).

MIDDLE ARCHAIC

The best evidence points to the Middle Archaic (ca. 3,000 to 5,000 B.P.) as the time of greatest aboriginal exploitation of the Black Hills, including the distinct possibility that these peoples utilized the Black Hills for their entire annual seasonal rounds - wintering in the south and hunting and gathering in the Central Area and Limestone Plateau during warmer months.

Middle Archaic sites, essentially McKean Complex, tend to be larger (and therefore it is assumed occupied longer) than Plano, Early Archaic, Late Archaic or Late Prehistoric sites.

Examples of McKean sites include Ditch Creek (39PN90) and the Andoni site (39PN326) from the Limestone Plateau/Central Area contact, Twin Sisters (39CU566) from the southern Interior, and George Hey (39FA302) and a Stone Quarry Canyon site (39FA396) on the Hogback of the southern Hills.

The Ditch Creek site (Tratebas and Vagstad 1979) contained cooking hearths, a mano with polish, and a variety of cutting and scraping tools, in addition to at least four McKean Complex point fragments. Tratebas interprets Ditch Creek as being a base camp used repeatedly by small groups of McKean hunters during the summer months.

The Andoni site (Eckles 1978c), while not tested, did yield two bases from what appear to be Hanna points (McKean Complex).

Farther to the south is the Twin Sisters site (Cassells 1981f), with slight Plano evidence, up through the Late Prehistoric. The greatest number of diagnostic artifacts came from the Middle Archaic, with both McKean Lanceolate and Duncan points present.



Fig. 4-6 : The Twin Sisters site (39CU566) on the low terrace and slope in a well sheltered (winter?) location.

The site is located on a low terrace and the adjoining slope above, well sheltered from wind on the west and north, and perhaps suggestive of a winter camp. There were four stone rings of unknown cultural affiliation there as well.

A small test pit was excavated during the initial recordation, and a small bifacial knife and some small flakes were found in situ. Several months later, the site was revisited by Alice Tratebas, and she found an additional (the fourth) Duncan point eroding out of a wall of the test pit. It appears that the Twin Sisters site does contain undisturbed cultural remains of at least Middle Archaic age, and the potential of a broad sequence from Plano through Late Prehistoric may be present in the strata.

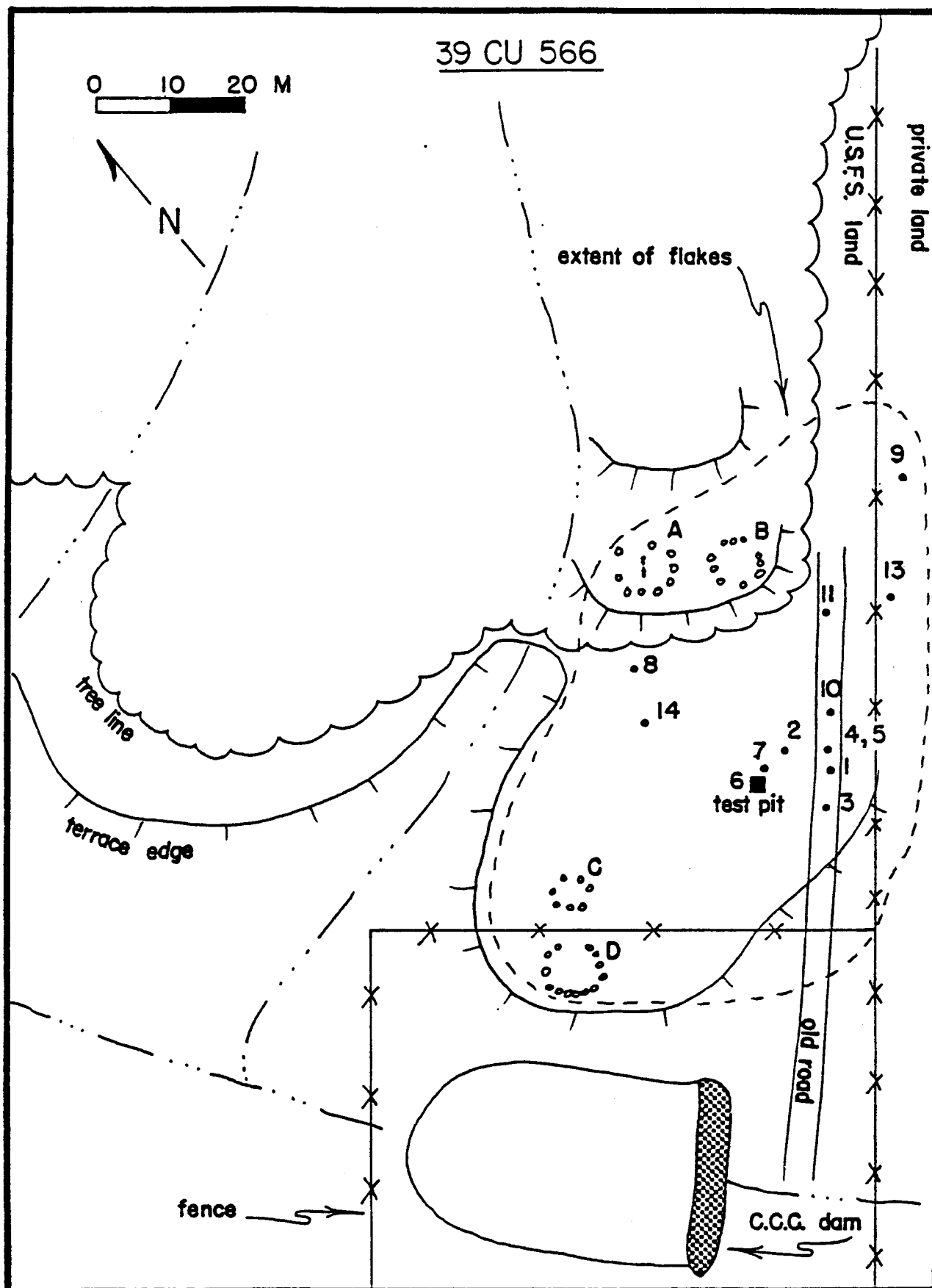


Fig. 4-7: Site map of 39CU566

39 CU 566

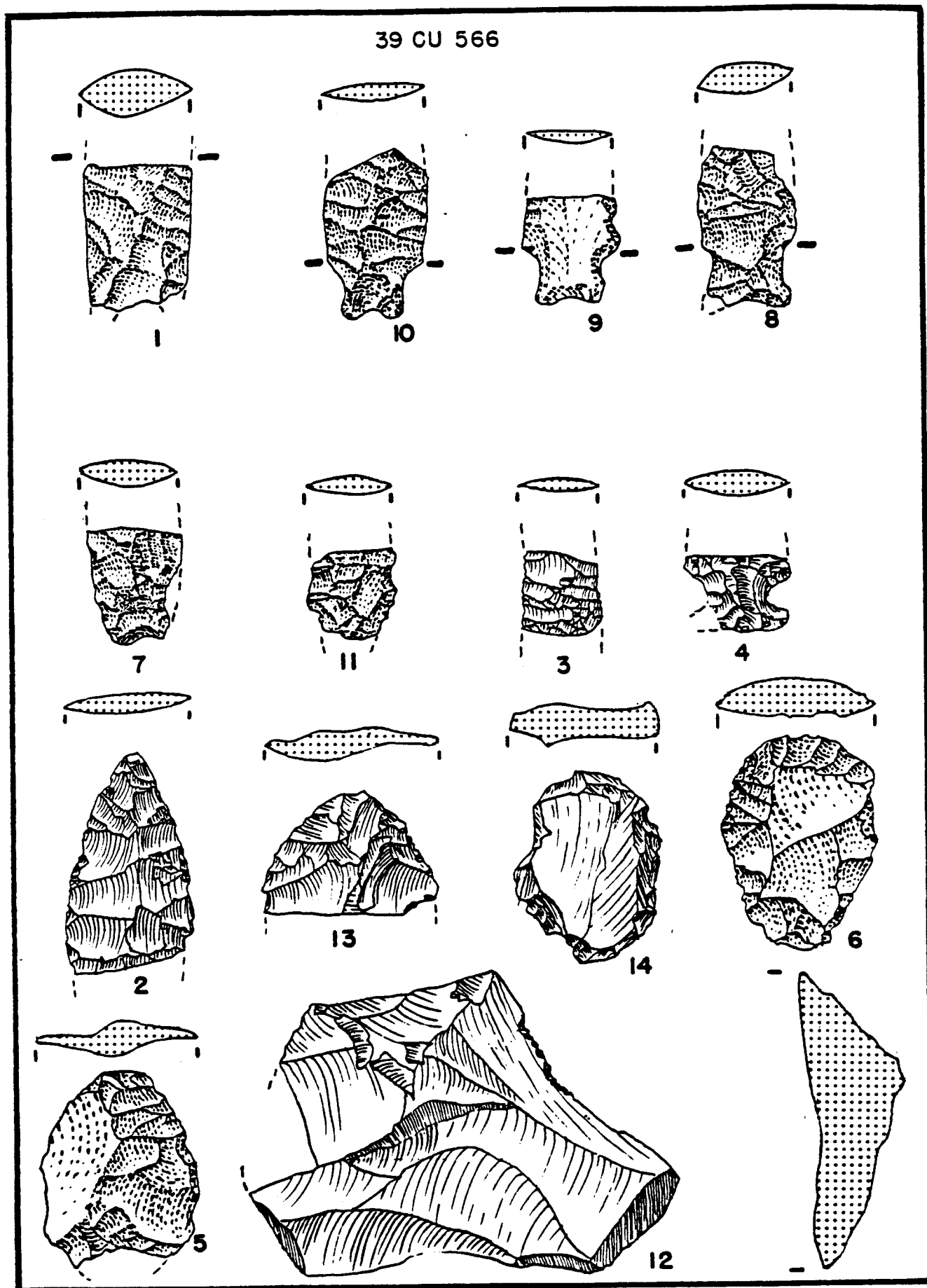


Fig. 4-8: Stone tools, 39CU566. #1-Late Paleo point; #10, 9, 8-Duncan point; #7- McKean Lanceolate point; #11, 3-point fragments; #4- side-notched pc fragment; #2, 13 - misc. bifaces; #14, 6, 5, 12- cutting/scraping tools.

Farther to the south is the George Hey site, originally discovered as a buried charcoal and burnt rock lens in a linear prospect pit opened for uranium exploration purposes. It was tested in 1977 by the South Dakota Archaeological Research Center (Tratebas and Vagstad 1979). Two prehistoric horizons were discovered, an upper one at about 60 cm., and a lower one at about 90 cm. of depth. Both zones appear to be

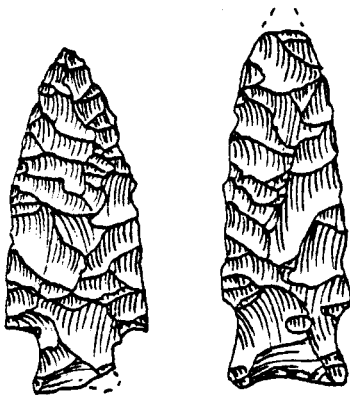


Fig. 4-9: Hanna (left) and Duncan (right) points from the George Hey site.

of McKean age, although diagnostics were only recovered from the upper zone. There were 17 stone tools and 90 flakes found, along with one unbroken pitted mano and 75 fragments of grinding stones. Also recovered in the test pits were 13 features that varied both in shape, size and content. Several were cooking pits, while others were large, filled or lined with rocks, and may have been for heating.

The site appears to contain at least five occupations over a 400 year period. A date of 3925 ± 65 B.P. was obtained from the lower horizon, and one of 3520 ± 70 B.P. came from the upper horizon, both within the range of variation for Middle Archaic.

Because most of the recovered bone there had been smashed, presumably for bone grease extraction, absolute species identification couldn't be made, but both horizons appeared to reflect an emphasis on large game hunting (e.g. deer). The mano found there, along with the grinding slab fragments, had little if any polish, instead being pitted. This has been interpreted as probably from pounding bone, dried meat and perhaps roots. There were no seeds or nuts that could be attributed to economic activities at the camp, supporting the interpretation of the pounding tools. Woodworking tools (endscraper/adzes, gravers) were well-represented in the assemblage. Most of the chipped stone tools had heavy polish, suggestive of excessive use/wear. This has been seen as evidence of a probable winter camp, when tools could not be as easily replaced. The sheltered nature of the site location is a final bit of evidence in support of winter camping, consistent with the model for southern Hills utilization (Tratebas n.d.).

A number of sites were tested along Stone Quarry Canyon, near the George Hey site (Tratebas 1979b), including one of probable Middle Archaic age. Included in the assemblage there was a Hanna point, and a bifacial knife of McKean style, along with stone tools reflective of hunting, butchering, hide working, shaft scraping, engraving, seed grinding and stone tool manufacture. The small cooking hearths have been interpreted as from summer activities, rather than used to heat a structure during cold weather.

In summarizing McKean utilization in the Black Hills, Tratebas (1983, n.d.) has stated the greatest number and largest sites in the Hills contain McKean Complex remains. She has recognized two residential site types in the Interior, with both concentrated on the western Limestone Plateau.

The first type is the largest, with multiple components. They are located along permanent streams or at high discharge springs, suggesting either larger social units or longer occupations. Although abundant chert outcrops near these sites, the quality is low, and most of the raw material used by the McKean peoples was from outside sources. A large number of projectile point bases indicates a camp used by hunters, where broken bases were removed from shafts and new points replaced. Hideworking tools here are an indication of larger social units (with women), rather than just small male hunting parties on brief forays.

The second McKean habitation site type in the Interior is found at low discharge springs. Tools and flakes there suggest shorter-term occupations where tools were repaired, but not replaced. The tool kit was hunting-oriented. A high quantity of faunal remains indicates the butchering and/or consuming of wild game after the hunt.

Non-residence McKean sites in the Interior are probably kill sites or butchering/processing stations. No bone beds were actually identified, but functions were inferred by the presence of choppers and other butchering tools.

There were two McKean residence patterns discovered along the southern Hogback. One type held a basic hunting and hideworking tool kit. In addition, functional analysis separated the sites into three types, according to stages of shaft manufacture (woodworking). One type was inferred to be where the initial shaping of the shaft took place, based on the presence of spokeshaves and large endscrapers. Notching shafts was a function at other sites, based on a large number of light flake tools with denticulated (serrated) edges and some use-wear (nibbling or micro-flaking) on other edges. A third cluster of artifacts - chisels, gravers and small spokeshave-like notches, indicating sinew work and other hafting tasks. This site type is also supported by the presence of projectile point preforms. Spatial separation of these three activity areas may be due to the need to season wood between steps, combined with the high mobility of the groups.

A second residence pattern was recognized on ridgetops at the bases of knolls or outcrops, or on shelves below a series of higher ridges or knolls that would afford protection from the weather. Animal bones with choppers and adzes suggest butchering was a camp activity. Hides were worked with

a variety of scrapers. Grinding stones and faunal remains correlate highly together in southern Hills McKean sites of this type. Overworked shipped stone tools suggest limited opportunities to procure raw lithic materials. Taken together this site type probably is a winter camp.

McKean peoples in the Black Hills brought with them a variety of exotic lithics. The principal type is porcellanite, a gray to black or maroon silicate produced by long-term extreme subsurface heat on shale beds by natural coal bed fires. A prime quarry for porcellanite is the Powder River Basin in Wyoming (Frison 1974). The larger McKean camps in the Interior tend to have a higher percentage of porcellanite, while smaller, short-term camps have a higher occurrence of Knife River Flint. On the southern Hogback, porcellanite is also the major exotic, but brown and plate chalcedony from the Badlands does appear in some sites. The co-occurrence of Badlands chalcedonies and porcellanite at several sites suggests that peoples entering the Hogback from the west also visited the Badlands, 30 miles to the east. Where Knife River Flint is found, it nearly always is accompanied by Badlands chalcedonies. The Knife River Flint is most reasonably interpreted as a trade item, due to the extreme distance from the Black Hills (over 300 miles north of the southern Hogback).

Tratebas sees the McKean utilization of the Black Hills as broad. Both warm-weather and winter camps appear to be present here, and social groups in these camps vary from total families in bands, to specialized male-centered hunting parties. Although plant collecting and processing of some degree is assumed, the presence of grinding stones is not an absolute indicator of such, since the making of pemmican and bone grease rendering seems to fit the wear patterns on many of the recovered grinding stones.

The question remains why McKean occupation of the Black Hills is so significantly higher than other periods. Were the Hills vacant during the Altithermal of Early Archaic times, and so teeming with wildlife from not being exploited for centuries, that the Hills became extremely attractive, were pressures from expanding Middle Archaic populations forcing more groups into the area, or were other factors at work?

LATE ARCHAIC

Following the heavy Hills activity during the Middle Archaic were the hunters of the Late Archaic, a period likely indistinguishable from their predecessors in lifeway, but primarily different in the style of projectile points used. As with the Early Archaic, problems exist in defining point styles. Elsewhere Besant and Pelican Lake points are major hallmarks of the Late Archaic presence. But in the Black Hills

neither of these point types have been absolutely identified.

At 39CU154, a rockshelter found during the survey of the Mayo Timber Sale (Groenfeldt 1978), a large side-notched point resembling Besant was recovered. A reworked side-notched

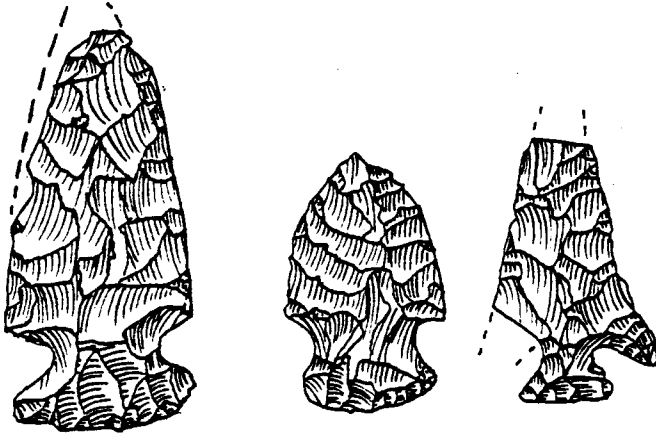


Fig. 4-10: Possible Late Archaic points from the Black Hills National Forest. (left) Besant? from 39CU154; center) side-notch from 48CK457; (right) Pelican Lake? from 39LA105.

point of Knife River Flint was found during the Hospital Gulch Timber Sale survey in the northern Hills west of Tinton in Wyoming (Cassells 1982a). Its notches were heavily ground. Corner-notched points, perhaps related to Pelican Lake, have been found at several sites, such as at 39CU158 (Groenfeldt 1978), or at 39LA105 (Tratebas 1978a). Tratebas (n.d.) has found a significant correlation of keeled scrapers with these point types. The

scrapers may be related to woodworking, such as shaft preparation. She also sees a higher use of the Central Area than with most other cultures, excluding McKean.

Broad generalizations about the Late Archaic will have to wait for the accumulation of a solid range of Late Archaic dates that have good association with Late Archaic diagnostic artifacts.

LATE PREHISTORIC

The Late Prehistoric, beginning in the region ca. A.D. 500, is characterized by the acquisition of the bow and arrow. Projectile points became significantly smaller and thinner, generally with notches on the side.

The Vore site buffalo jump is the most spectacular Late Prehistoric site in the Hills, outside of the Black Hills National Forest (Reher and Frison 1980). Another buffalo jump has been located in the Hills, just east of Wind Cave National Park (Sudderth 1963), although a test there was inconclusive on the suspected bone bed vicinity. A medicine wheel, perhaps of Late Prehistoric age, and probably of ceremonial (calendrical?) function, was also found near Wind Cave on private land (ibid). The best evidence for the Late Prehistoric on the Forest come from the southern Hogback along Stone Quarry Canyon (Tratebas 1979 b).

One camp, 39FA392, appears to be from a winter occupation, being sheltered at the lower end of a ridgetop. When discovered, a road was cutting across a single stone circle, the ring having a diameter of about 4 meters. Also visible were three concentrations of charcoal and burnt rock eroding out of an adjacent gully.



Fig. 4-11: The stone circle at 39FA392 prior to excavation (courtesy South Dakota Archaeological Research Center).

The site was tested in 1978, the ring being partially excavated. The interior of the ring was unusual, in that it yielded several burned logs on the floor, at first suspected to be the collapsed tipi framework. Later analysis showed them to be associated with a central hearth.

The hearth was located slightly east of center, and was a deep cylindrical pit 70 to 80 cm. in diameter and 70 cm. deep. The upper hearth was highly oxidized, and indications are that it was used many times. The interior of the hearth contained fire-blackened and cracked rocks, 16 log segments and a quantity of other charred wood. When excavators began to get deeper in the hearth (75-85 cm.), fragments of human remains were

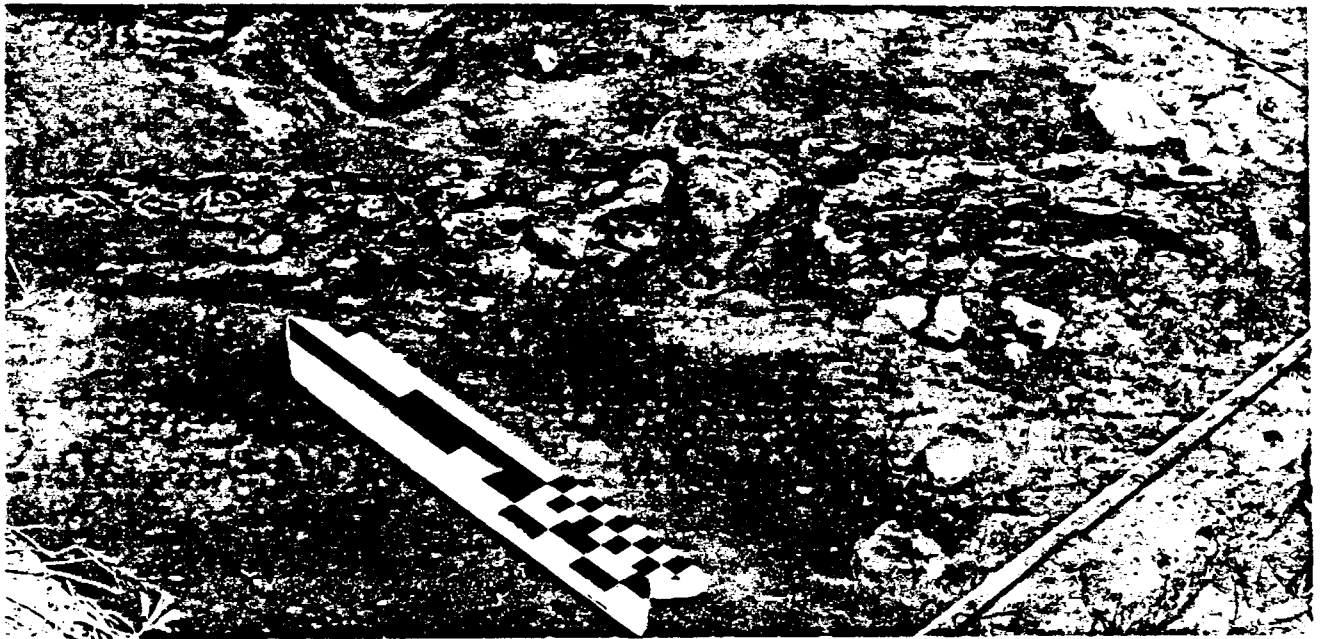


Fig. 4-12: One of several burned logs on the floor of 39FA392. (courtesy South Dakota Archaeological Research Center).

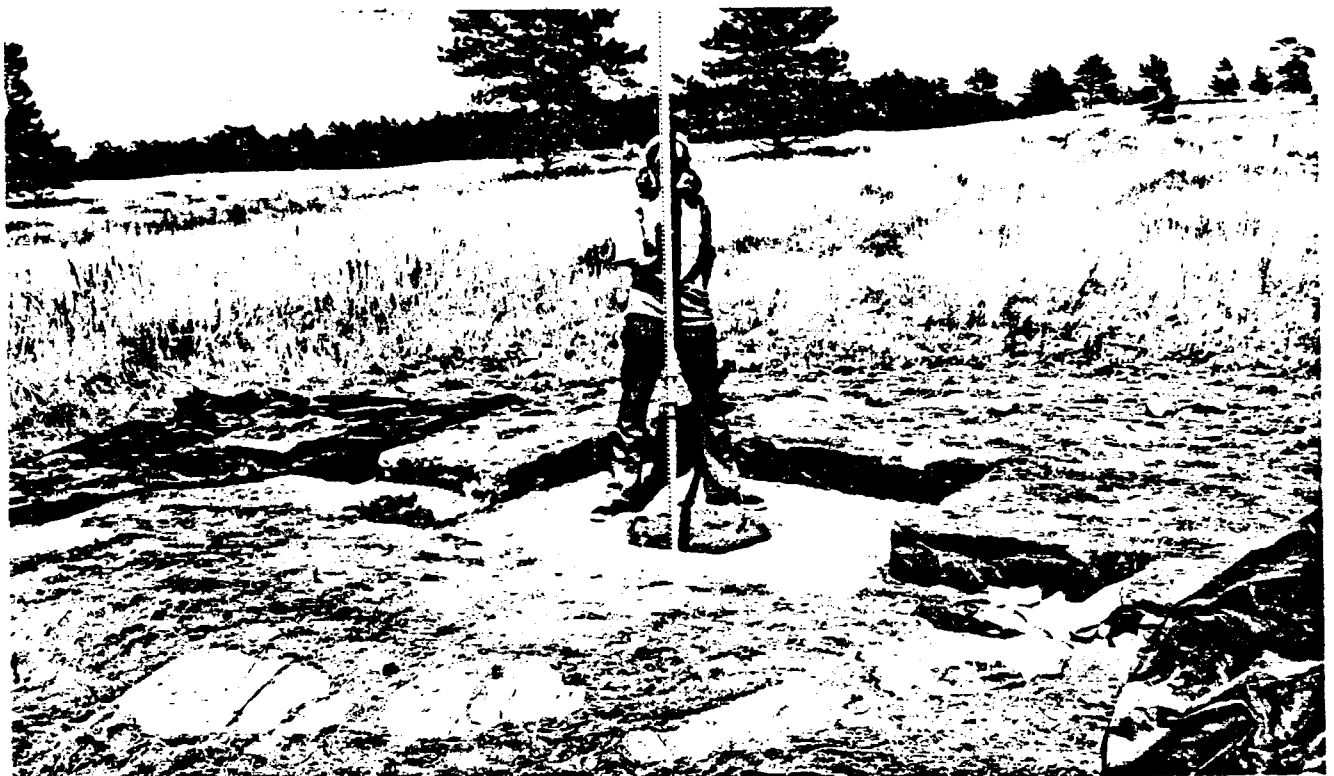


Fig. 4-13: Measuring in the central hearth within the stone circle at 39FA392 (courtesy South Dakota Archaeological Research Center).

encountered. A single adult sternum was recovered, along with a number of long bones, vertebrae, cranial fragments and a few others, all from what appeared to be a single newborn. An awl made from an antelope metacarpal, found within the human bone levels, may have been placed there intentionally as a grave offering. The investigators consider it a possibility that the two individuals represent a mother and child, perhaps dying during childbirth.

A second hearth, 20 meters distant, and a probable outside cooking pit, was also excavated. It was filled with sandstone rocks

Most of the animal bone recovered at the site was badly broken, but the few identifiable appear to be from antelope. In addition to the antelope bone awl, another awl, made from the metatarsal of a mountain sheep, was found.

Tools recovered from the excavation included bone awls, endscrapers, denticulates, utilized flakes, a mano with polish, six grinding slab fragments, and a quantity of debitage which were principally of Hogback quartzite. A Duncan point of Middle Archaic age was found in the site vicinity on the surface, but does not appear to be associated with the stone ring use, as a date run on wood from the site was 1030 ± 60 B.P., a good Late Prehistoric age.

The burial here compares favorably with two found at Angostura Reservoir, one placed beneath metate fragments in the bottom of a fire-oxidized hearth (Hughes 1948), and another at the bottom of a straight-walled, oval pit, also covered with metate fragments (Wheeler n.d.). The latter burial was associated with Late Prehistoric artifacts, while the former had no diagnostics present.

Also in the vicinity of Stone Quarry Canyon was another Late Prehistoric camp, 39FA398 (Tratebas 1979b). This site was on the top of a ridge, partially with a south exposure. Based on a relative lack of protection there, it was suspected by the investigators not to be a winter camp.



Fig. 4-14: A side-notched point from 39FA398.

No structural features were discovered, though a single hearth 30 cm. in diameter was excavated. Small bone fragments and broken rocks were removed from the fire pit, along with three projectile point fragments.

In all, 11 projectile point fragments were recovered at 39FA398, including both unnotched and side-notched forms. All were of Hogback quartzite and appear Late Prehistoric in age, although no dates were actually run from the site. Other stone tools there included endscrapers, keeled scrapers, bifaces, spokeshaves,

retouched flakes, a denticulate, a mano that was both polished and pitted, hammerstone, cores, and a quantity of debitage primarily of Hogback quartzite, but some chert and chalcedony as well.

Near to 39FA392 and 39FA398 is what appears to be a Late Prehistoric game overlook (39FA393), a specialized activity area perhaps associated with these adjacent habitation areas. It is located on a rocky knoll upslope from 39FA392, and a full view of the valley below is afforded from the cliff edge there. This particular valley is a tributary of Stone Quarry Canyon, joining it where a large clay-bottomed pool maintains a year-round water supply. Just upstream from this pool are a number of smaller bedrock pools that also sustains water throughout the year. As such, this tributary valley was likely a wild game trail, and hunters on the knoll at 39FA393 would be in an excellent position to view and then intercept deer, mountain sheep, antelope and bison on their way to water.

The site was tested in 1978 (Tratebas 1979), and of 14 excavated one-meter squares, eight were productive. The recovered remains included two Late Prehistoric projectile point fragments, a sandstone shaft abrader, bifaces, spoke-shaves and other flake tools. Most of the raw material there was Hogback quartzite, probably from the nearby Flint Hill quarry, although some did come from the Hartville Uplift of Wyoming or the South Dakota Badlands. A number of fragmented large mammal bones were found, most of which were unidentifiable. Those that were speciated were one from an antelope, and a tooth enamel piece from a probable bison. All of the bone was recovered from a single test pit, and there is a great probability of additional evidence remaining in adjacent soil.

Although only speculation, it is likely that this game overlook, 39FA393, explains the presence of the prehistoric habitations in the vicinity. The elevated land near dependable water here would have been optimal as a campsite for bands in need of game in adequate numbers to support the group.

Overall, Tratebas (n.d.) sees the Late Prehistoric as poorly represented in the Interior, with only Clovis, Folsom and Early Archaic less visible. On the southern Hogback, only six Late Prehistoric sites have been identified through survey, with another three located during excavations.

Interior Late Prehistoric sites appear to be fairly small and lack evidence of much knapping. The most common activity represented in these sites seems to be post-hunt processing of game (butchering, hideworking). Interior sites tend to cluster toward the eastern edge of the Central Area, where rockshelters are more numerous. There are a few Limestone Plateau sites, possibly used for meat procurement. Interior sites have more portable utilized flakes and bifaces, while Hogback sites in the south tend to have heavy adzes and sometimes choppers. Both areas have projectile points and grinding stones. There is heavier evidence for hideworking

on the Hogback than in the Interior. Biface manufacturing and other activities designed to rearm also weight toward the Hogback. Tratebas suggests this, in addition to increased lithic density, indicates the Hogback sites were occupied for longer periods of time (Tratebas n.d.).

Beyond the most common local cherts everywhere, local fine grained quartzites predominate the Interior, while southern Hogback sites have porcellanite, Badlands chalcedonies and Knife River Flint. Some porcellanite and Spanish Diggings quartzite at a few sites at the southern end of the Central Area are perhaps indicative of movement into the Interior from the southern Hills. Both porcellanite and Spanish Diggings materials from the west, and the Badlands chalcedonies from the east (in conjunction with Knife River Flint) suggests entrance to the Hills from two areas. This may indicate separate cultures (including some Middle Missouri Woodland and Plains Village peoples) and/or perhaps the same nomadic group entering the Hills during successive years (Tratebas n.d.).

RAW LITHIC MATERIALS AND SOURCES

Those early hunters that frequented the Black Hills survived primarily at a Stone Age level of technology. As such, they were apparently well acquainted with sources of raw lithics appropriate for tool manufacture. The analysis of Alice Tratebas (n.d.) indicates that there were some changes in quarry preferences through time.

As mentioned throughout this text, a number of exotic lithics have been brought to the Black Hills. There are basically four major outside sources: Spanish Diggings, WY; the Powder River Basin, WY and adjacent areas of south-east Montana; Knife River, N.D.; and the Badlands of South Dakota. Local quarries are known from across the Hills as well. Most, such as the famed Flint Hill (39FA49), are located along the Hogback. Some others have been found more toward the Interior, especially on the Limestone Plateau.

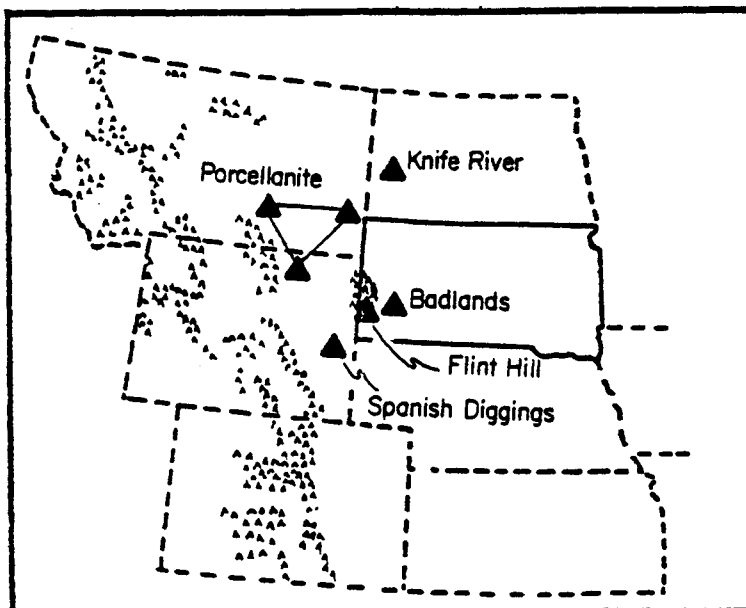


Fig. 4-15: Major lithic sources for Black Hills prehistoric cultures.

Spanish Diggings, an area that has been extensively quarried for millennia, contains several lithic types, including a fine-grained quartzite.

This quartzite, often a yellow to tan, is confused with quartzites from the southern Black Hills. Field identification is difficult, if not impossible. The Spanish Diggings quartzite comes from the Hartville Uplift of Wyoming, near Lusk, whereas the southern Hills type, Hogback quartzite, come from the Cloverly Formation. Considerable petrographic analysis has been necessary to distinguish them (Witzel and Hartley 1973), at which time suspected Spanish Diggings quartzite in the Paleo-Indian Hudson-Meng bison kill (Agenbroad 1978) in northwest Nebraska was determined to have come from the Black Hills.

Much has been mentioned here of porcellanite, dull gray and red silicates that originate north and west of the Black Hills (Fredlund 1976). This material was originally shale that has been metamorphosed by close contact with burning subterranean coal seams. Fused glass and vitreous porcellanite were formed by the same process, though they are the products of greater heat, with fused glass being exposed to the highest temperatures of them all. Fused glass has been confused at times with obsidian. The actual source for any particular artifact of porcellanite, vitreous porcellanite or fused glass is difficult to isolate, as there are broad coal formations from central North Dakota and northwest South Dakota west to Wyoming and Montana. There is a potential for porcellanite and related silicates throughout the area. Perhaps the nearest known source is the Powder River Basin, around 100 miles to the northwest (Frison 1974). This has also been termed the Fused Shale Beds (Agenbroad 1978).

A popular silicate used by Black Hills hunters is called Knife River Flint, a translucent chocolate brown chalcedony known to have been quarried along the Knife River of west-central North Dakota (Clayton, et al 1970). Its widespread occurrence in sites across the Great Plains suggests its popularity as a trade item.

East of the Black Hills are the Badlands, a large block of eroded shales and other sediments. Outcropping there are various chalcedonies, known as Flattop and Plate chalcedony. Flattop chalcedony is dark brown and translucent. Chert inclusions in it, along with a distinctive cortex, separates this type from a similar appearing Knife River Flint. Plate Chalcedony, named for its common occurrence in thin plates, is white to gray to pinkish gray (Tratebas 1978 a).

Beyond the exotic lithic sources, a number of local quarries have been identified (several on U.S. Forest Service land) and raw materials have been given specific names.

Flint Hill and Battle Mountain, both in the southern Hills, are well-known sources for Hogback quartzite, a fine-grained variety occurring in the Cloverly Formation, is, as discussed above, difficult to separate from those in the Spanish Diggings quarries. Another Hogback quartzite quarry,

this one located on the Forest, is 39FA539, near Bennett Canyon (Haug 1979).

Deadwood quartzite, a coarse-grained dark red or orange quartzite, can be found at a number of outcrops on Forest property, including 39CU473, 474, 478 and 484 (Cassells 1980f), located during a survey of the Hawkwright Timber Sale, bordering Pleasant Valley, south of Custer.

Pahasapa chert is made up of a wide variety of colors and textures. Coming from the Pahasapa Formation, it includes a tan to yellow dendritic jasper often mistaken from a similar type from the Spanish Diggings quarries (Tratebas 1978a).

Gypsum Springs chert, a purple fine-grained silicate that occurs as flattened nodules in the limestone of the Gypsum Springs Formation, is difficult to separate from the purple and red Minnelusa cherts from the Minnelusa Formation. Minnelusa cherts also occur in white, gray, tan, yellow and orange. Purple cherts have been found at quarries of 39CU469 (Cassells 1980f) and 39CU19 (Tratebas 1979a), both on Forest land.

Quarry sites, like Euro-American mining sites, are not as predictable in location as habitation sites, instead occurring where the proper geologic formation exists. Often, such as at Hospital Gulch (Cassells 1982a), the quarries appear along ridgetops (48CK452, 454, 459). With silicates and associated matrices being relatively resistant, it can be expected that a number of quarries will be elevated to some degree, although cutbanks may have exposed lithic sources in their stratigraphy. See Tratebas(1978a:33-39) for additional descriptions of local and exotic lithics in the Black Hills.

It should be stated that detailed comparative petrographic studies are lacking between many lithic quarries, and as a result, identification of specific lithics should be considered as tentative. One must realize the difficulty of making field identifications of lithic types, even under the best of circumstances. Within the archaeological community, as well as the geological, several names can exist for a lithic type, depending on the background of the investigator (e.g. agate vs. chalcedony; red chert vs. jasper). Although locating sources of lithics and tracing movements of cultures on this basis is a worthwhile pursuit, much work remains to firm up the data and educate fieldworkers, in order to standardize the system.

BLACK HILLS ROCK ART

The Black Hills contains a wealth of rock art, primarily executed on the sandstone walls of the southern Hogback in various canyons. These include painted forms (pictographs) and pecked or incised forms (petroglyphs). These have been

common knowledge to local residents and aficionados of plains rock art. W.H. Over, South Dakota's "grand old man" of archaeology, made note of southern Hills rock art several decades ago (Over 1941). The Angostura Reservior project in the late 1940's was also responsible for locating southern Hills rock art (Hughes 1948, 1949).

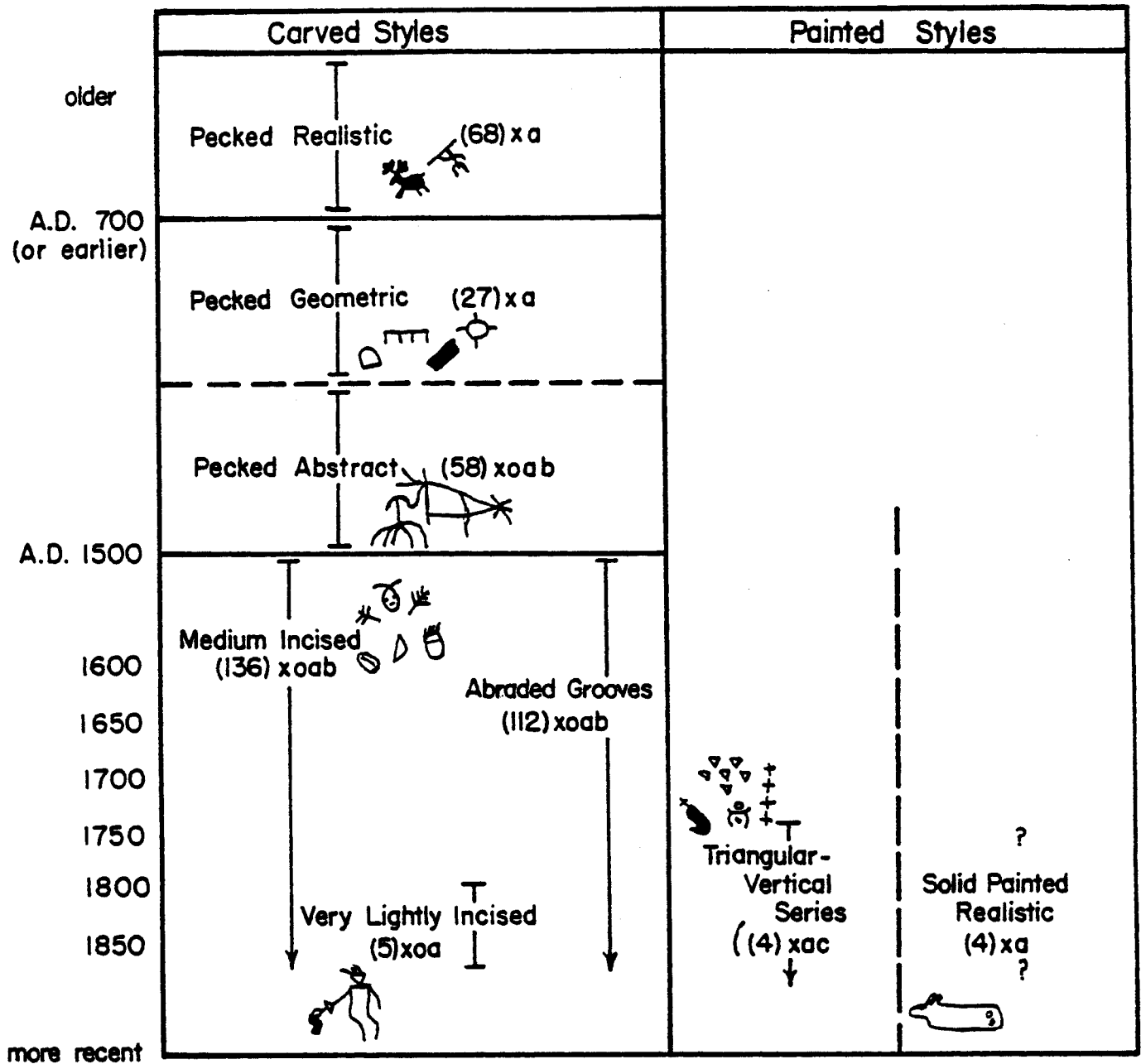
The greatest contribution to Black Hills rock art knowledge took place during 1980, when an intensive survey of the area was undertaken by the Archaeology Laboratory of South Dakota State University, at which time 54 rock art sites were identified and recorded (Sundstrom 1984). These sites were photographed, drawn and analyzed, and the result was a report and a National Register nomination. A large number of these sites are on the Black Hills National Forest.

Based on five criteria, Sundstrom was able to sort out various panels into a chronological sequence. These criteria were: superposition, where one style of art has been carved or pecked over another, thus indicating the relative age of each; relative weathering and relative patination of carvings, where more heavily weathered or patinated art at a site is assumed older than others at the same site; relative age of panel surface, based on art put on newer surfaces (more recent spalling) at the same site as art on old, non-spalled surfaces; sediment displacement, used in conjunction with other techniques, a judgement is made about the relative sediment deposition at the base of the panel, indicating that glyphs higher or lower on the wall may be older or younger in relation to each other (in other words, where was the ground level at the time the artist stood on it to produce the art?); and subject matter, such as bows and arrows vs. atlatls would indicate Late Prehistoric vs. Archaic. Painted panels were not included in these criteria, and instead were compared to ethnographically recorded Indian art in other parts of the plains.

Overall, southern Black Hills rock art tends to have developed from realistic forms during the earliest times, up to increasingly abstract styles later. This trend holds until the occurrence of Late Prehistoric incised rock art returns to realism.

Sundstrom sees the Pecked Realistic as the earliest form, with subjects including a variety of animals (perhaps even a Pleistocene elephant). Humans are usually depicted in hunting scenes, often with atlatls or spears. Stylistically, the work is most similar to art from Wyoming, Nevada and California. Sundstrom's chronology places the style from 2500 B.C. or earlier to A.D. 700.

There does not appear to be any cultural/chronological overlap between Pecked Realistic and the following style, Pecked Abstract and Pecked Geometric, suggesting a gap



- a. major hogback canyons/Cheyenne River floodplain
- b. minor hogback canyons
- c. central hills - igneous
- x unsheltered cliff face
- o cave or rockshelter
- (5) number of panels for each style

Fig. 4-16: Proposed rock art sequence for the southern Black Hills (modified from Sundstrom 1984).

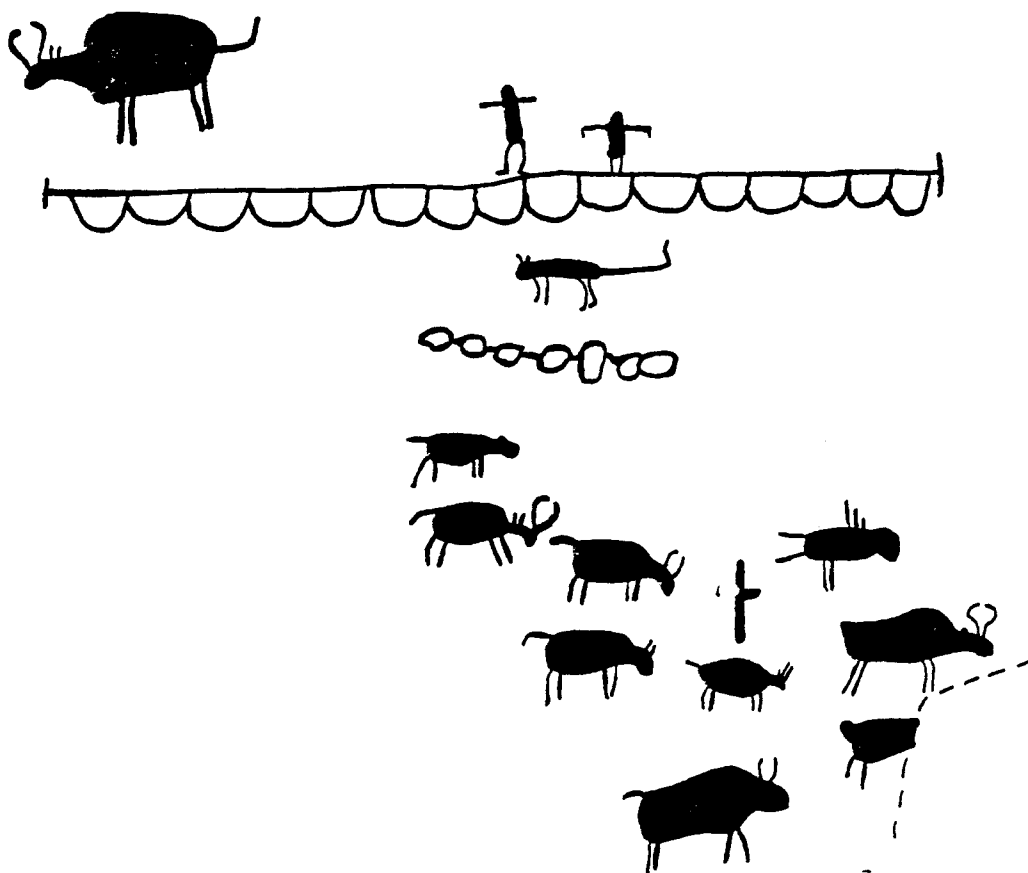


Fig. 4-17: Pecked Realistic style, 39FA94 (Red Canyon)
 (courtesy Linea Sundstrom and the South Dakota Archaeological

of time taking place between the end of Pecked Realistic and the beginning of Pecked Abstract and Pecked Geometric. The Pecked Abstract and Geometric styles generally appear horizontally-oriented on the panels, and the designs include curved lines, arches, circles, spirals, straight lines, crosses and asterisks. Horizontal lines often connect other figures. There are perhaps Great Basin influences for these designs, with Pecked Abstract beginning post-A.D. 700, and succeeded by Pecked Geometric, which ended ca. A.D. 1500.

It is thought that ca. A.D. 1500, incised rock art began as a major style in the southern Hills. Sundstrom sees no overlap between the preceeding Pecked Geometric and the incised styles, again suggesting a time gap there, and the later infusion of a new culture ca. A.D. 1500. At about the same time, painted styles, both Solid Painted Realistic and Triangular-Vertical, are thought to have begun. Some of the painted Triangular-Vertical glyphs (crosses, crescents, human handprints and dots) are thought to possibly relate to Lakota sources ca. 1750-1850.

Sundstrom's work was not directed toward understanding any inherent meaning in the art. Some do think of rock art as "talking pictures", but except for limited art documented from historic winter counts and other sources from which meaning is known, it is really going beyond the data to try and attach thought of the prehistoric artist to the final work.

Vandalism to rock art is a great concern to Sundstrom, and to the entire archaeological community. Usually this damage comes in the form of modern grafitti, such as initials, dates or modern stylistic renditions. In addition, pitting and exfoliation occurs when rifle and shotgun fire is directed at panels. At times, people have attempted to remove portions of panels in order to display them at home, or to sell them. Some painted figures that have faded through time, and a number of faint pecked designs become enhanced with chalk by photographers who want to improve the visibility of art for photographic purposes.

All of these actions contribute to the deterioration of a valuable cultural resource. The sum total of thousands of years of prehistoric creativity is being destroyed at such a pace that within a few generations all but the most inaccessible will only be known through photographs and drawings that have been made of them.

Sundstrom's suggestions for protection appear to be sound. Rather than fence off the panels, she feels that increasing public visitation would improve site protection. Visitors could be educated with a number of interpretive signs that not only explained the site, but encouraged a conservationist position. An increased stream of visitors would discourage would-be vandals from damaging the panels, as well. Both the

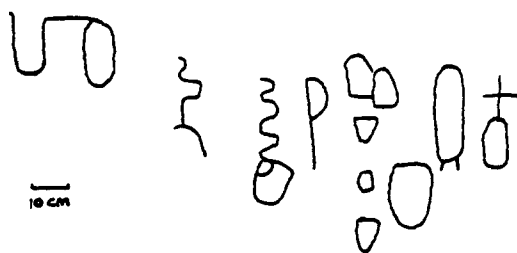


Fig. 4-18: Pecked Geometric style, 39FA79 (courtesy Linea Sundstrom and South Dakota Archaeological Society).

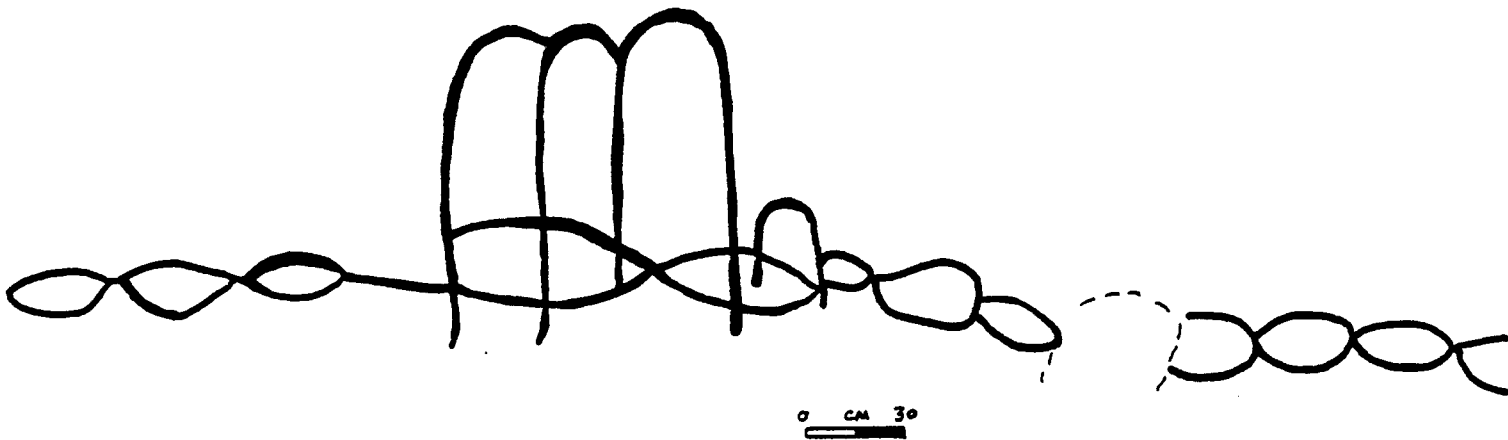
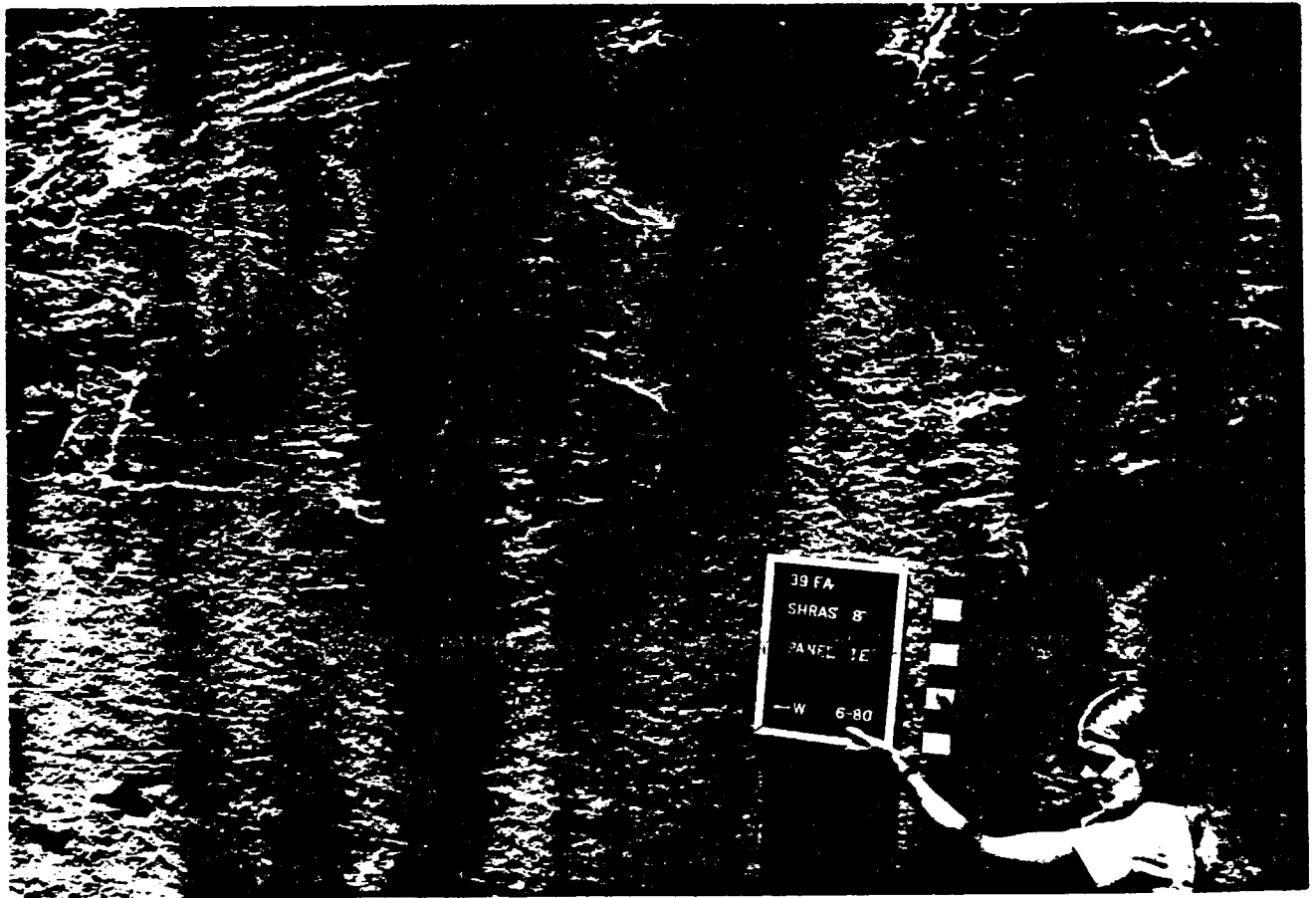


Fig. 4-19: Pecked Abstract style, 39FA680 (courtesy Linea Sundstrom and the South Dakota Archaeological Society).

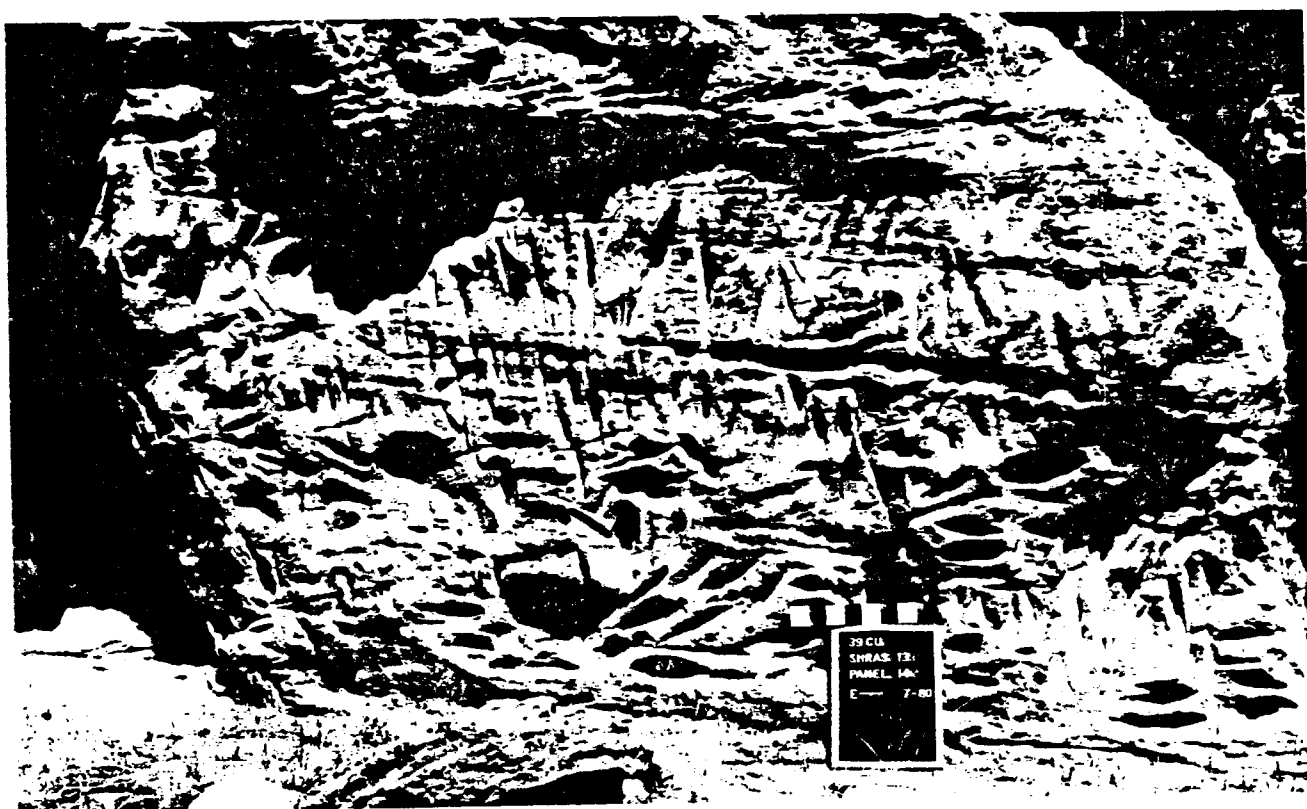
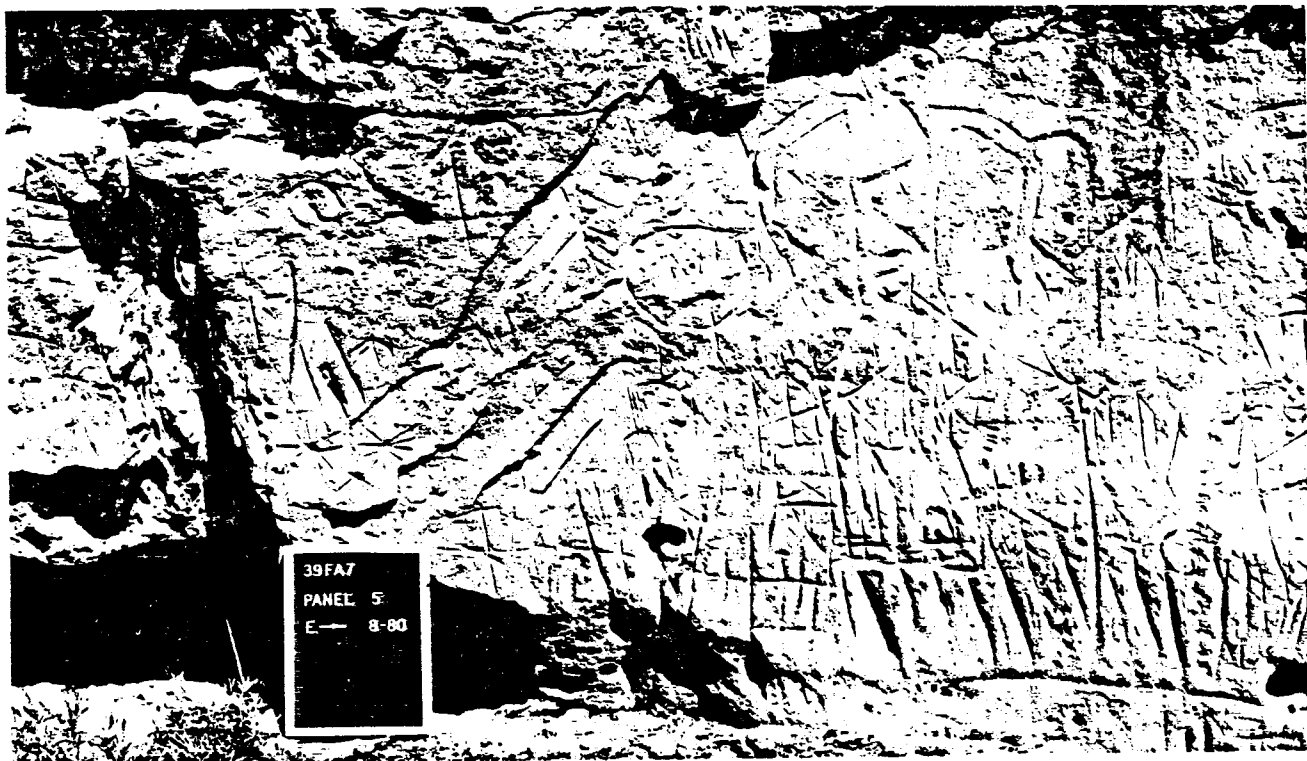


Fig. 4-20: (top) Incised rock art, 39FA7: (bottom) Abraded Grooves, 39CU91 (courtesy Linea Sundstrom and the South Dakota Archaeological Society).

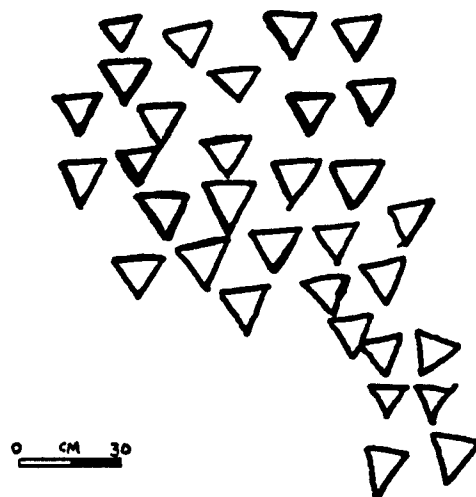


Fig. 4-21: Triangular-Vertical Series style, 39CU70 (courtesy Linea Sundstrom and the South Dakota Archaeological Society).

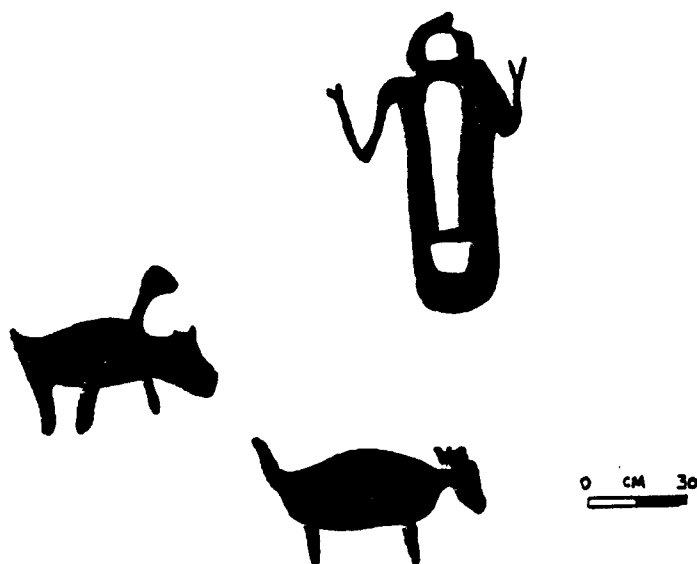
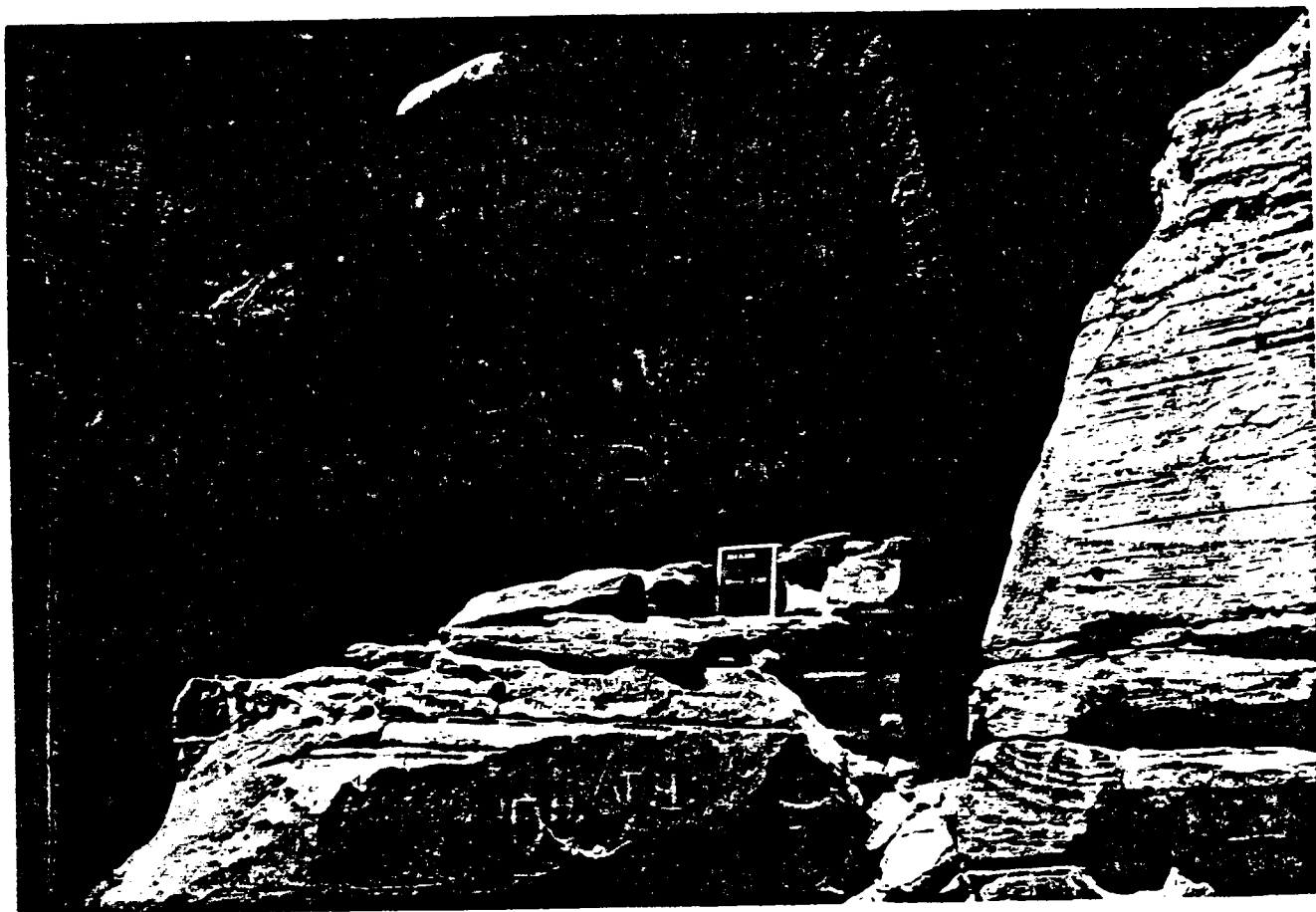


Fig. 4-22: Solid Painted Realistic style, 39FA321. Note some vandalism on and below the panel (courtesy Linea Sundstrom and the South Dakota Archaeological Society).

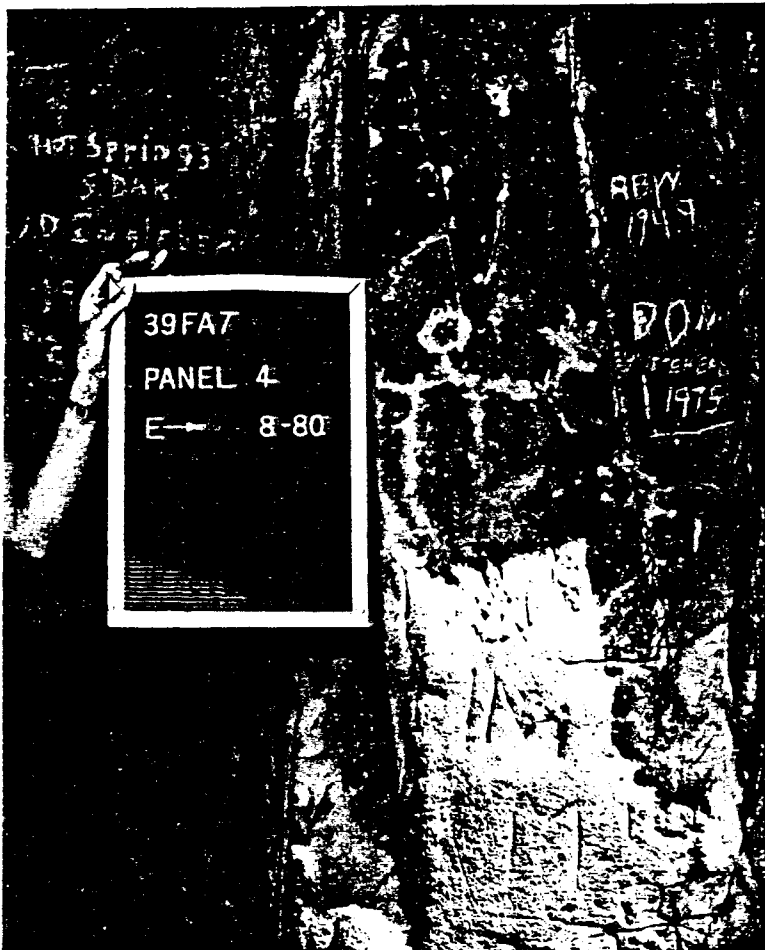
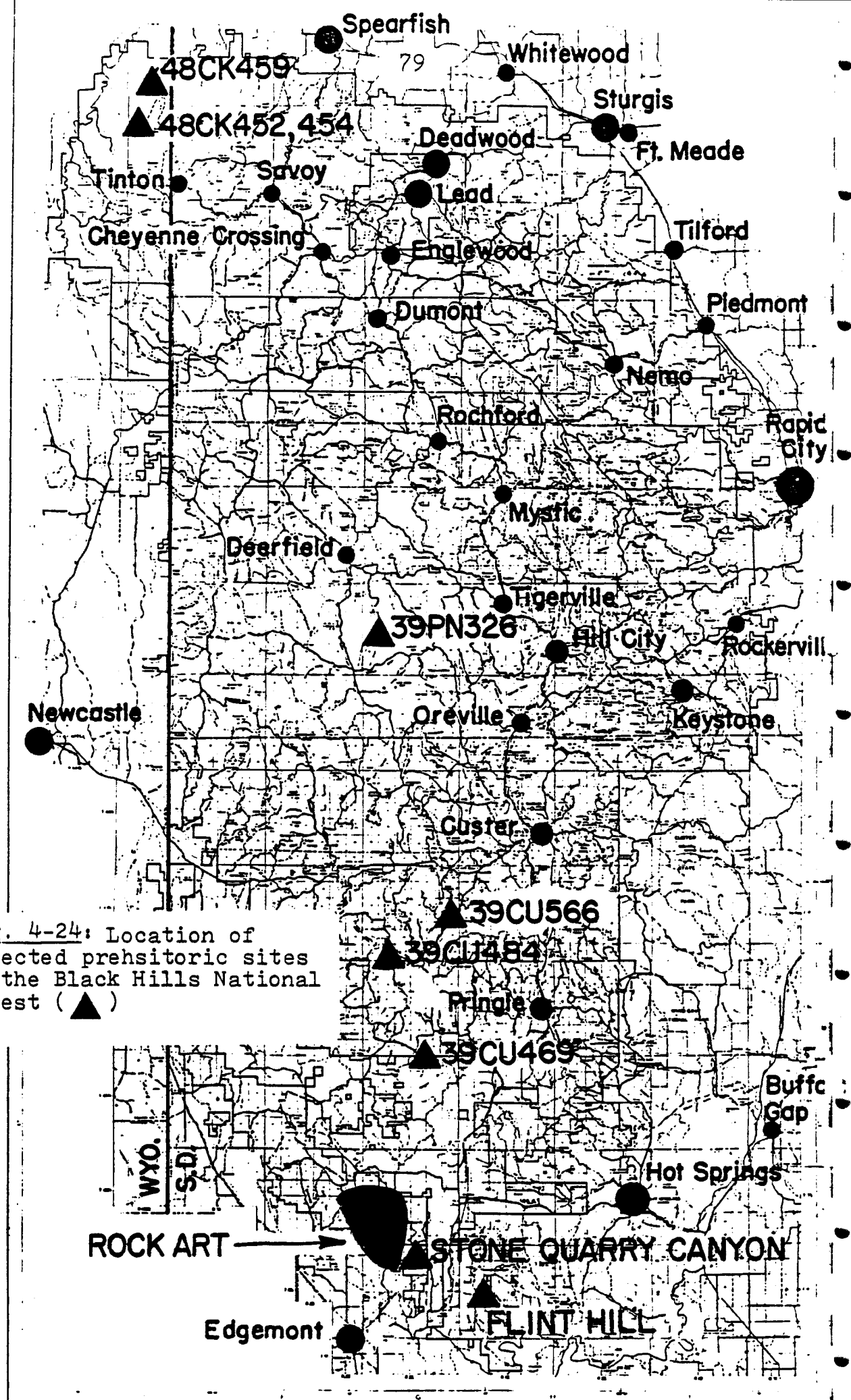


Fig. 4-23: A Pecked Realistic glyph at 39FA7 (to right of sign board), with a number of modern dates, initials and hometowns carved around it (courtesy Linea Sundstrom).

National Park Service and the Bureau of Land Management have undertaken interpretive programs for areas with concentrations of rock art, and it appears the efforts have been met with success. There is a danger in encouraging site visitation, and vandalism is possible as a result, but work such as at BLM's Canyon Pintado, visitation has been a positive experience.

PROFESSIONALS AND PARAPROFESSIONALS

Since 1977 (with the exception of the Nemo District in 1976), the Black Hills National Forest has utilized a number of in-house employees to conduct cultural resource surveys. Trained in formal classes that are taught by Forest Service archeologists, these paraprofessionals have generally been used on small compliance surveys. As can be seen in Figure 4-21 and Table 4-1, average acres per report for paraprofessionals was between 200 and 500, wher for professionals, the average agreage per report was between 500 and 2,000. There was a period of time, from 1977 through 1979, when paraprofessionals actually surveyed greater acreage than did professionals, but after a peak of 49,421 acres covered in 1978, the annual total declined to a low of 4,053 in 1981, and was 8,927 in 1983.



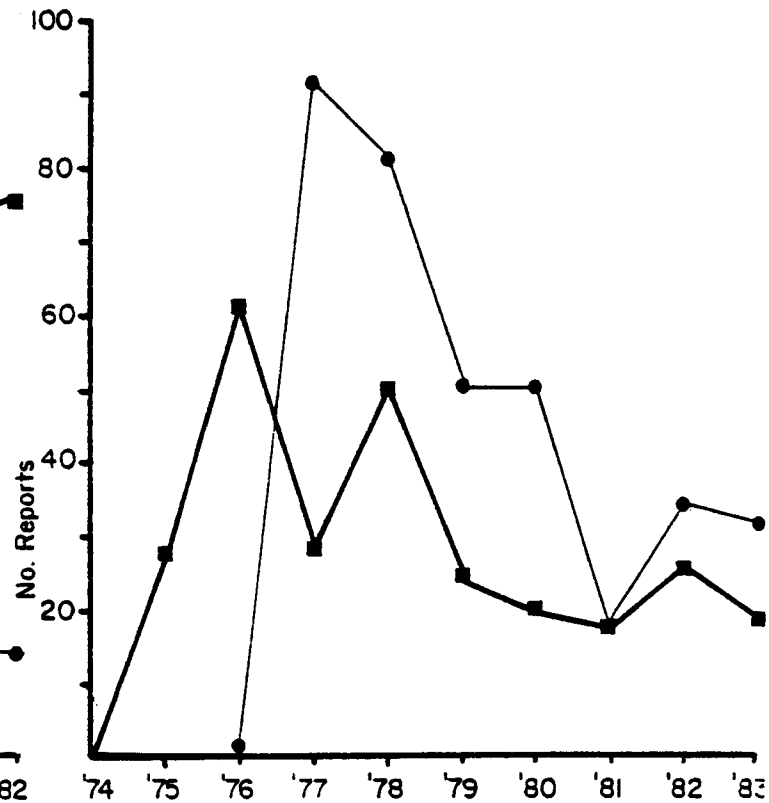
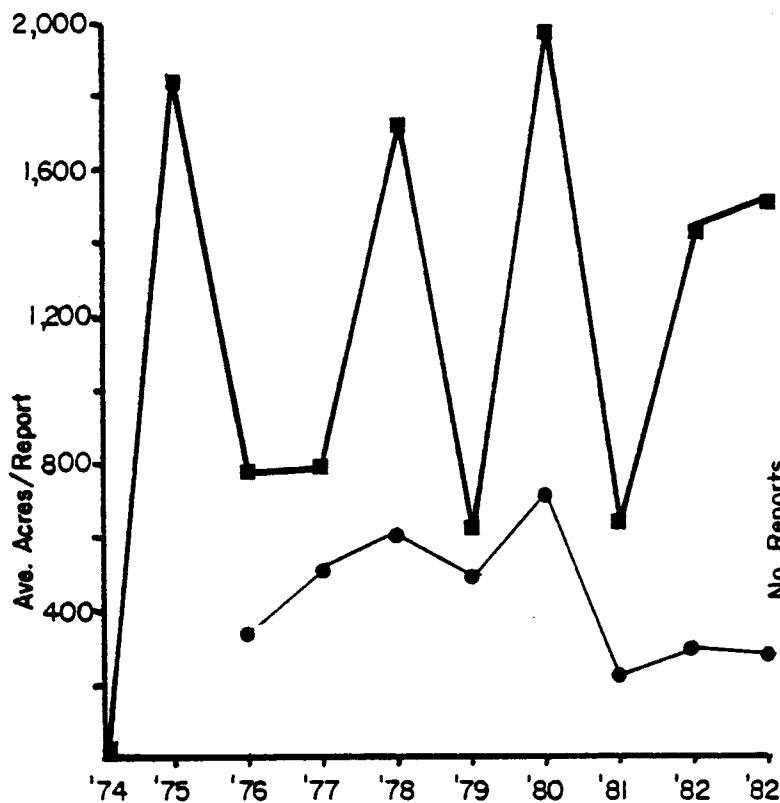
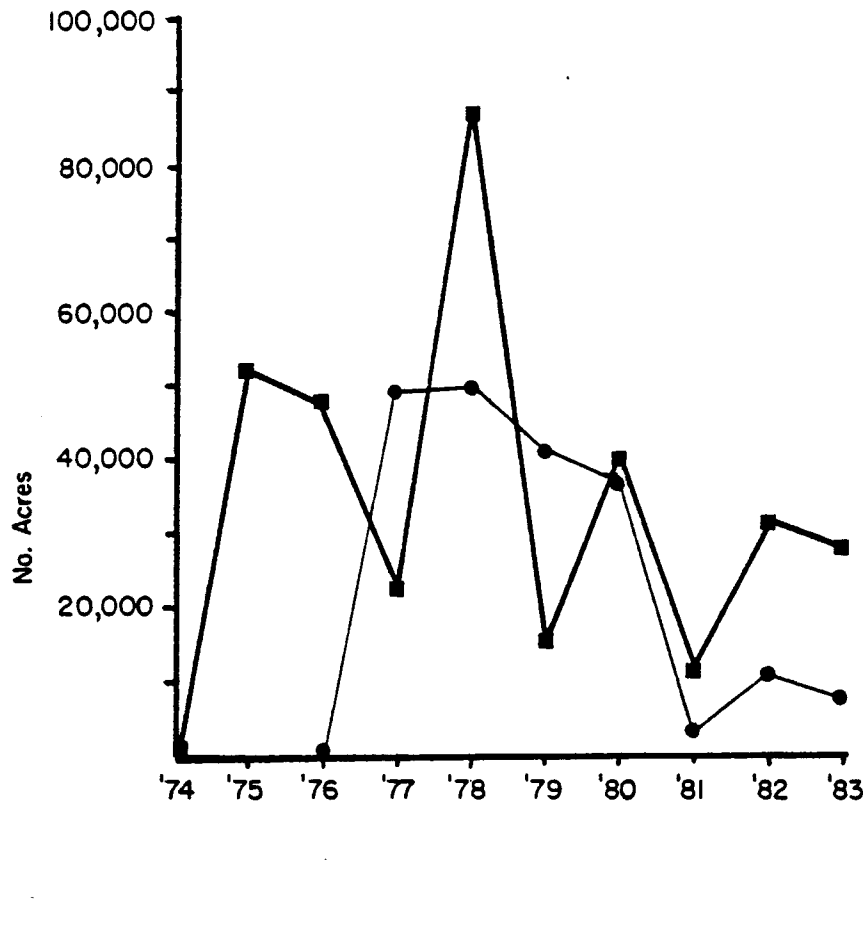


Fig. 4-25: Summary graphs of professional and paraprofessional surveys on the Black Hills National Forest.

Table 4-1:

Summary of Combined Survey Acreages,
Reports and Averages of Acres per Report

<u>Year</u>	<u>Professional</u>			<u>Paraprofessional</u>		
	<u>Reports</u>	<u>Acres</u>	<u>x Acres/Report</u>	<u>Reports</u>	<u>Acres</u>	<u>x Acres/Report</u>
1974	2	48	24	1	-	-
1975	28	52,797	1,886	0	0	0
1976	62	48,783	787	3	1,082	360
1977	29	23,087	796	92	49,187	535
1978	50	87,717	1,754	82	49,421	603
1979	25	15,505	620	50	41,290	504
1980	20	39,606	1,980	50	37,440	749
1981	17	10,709	630	18	4,053	225
1982	24	34,275	1,428	34	11,645	343
1983	<u>19</u>	<u>28,692</u>	<u>1,510</u>	<u>29</u>	<u>8,927</u>	<u>308</u>
Tot.	276	341,219		355	203,045	

Professional survey coverage hit a high of 87,717 acres in 1978, a low of 10,709 in 1981, and was at 28,692 in 1983. Paraprofessionals have produced a larger number of reports than have professionals (90 in 1977 alone), but these generally have been short reports on small surveys, accompanied by site forms and project area maps. Most major surveys were undertaken by professionals, either hired as full-time employees, as seasonal employees or under contract.

It should be said that the use of paraprofessionals to conduct cultural resource surveys on the Black Hills National Forest has not been greeted with enthusiasm by some professionals outside of the employ of the Forest Service. Criticism of the program basically stems from training at less than an undergraduate level, and with working in the field without direct supervision. The feeling has been that prehistoric sites, difficult to find in the best of circumstances, may be missed during the survey. In viewing the average acres per site tabulations in Tables 4-2 through 4-8, it can be seen that in most cases, professionals have tended to find more prehistoric sites on fewer acres than do paraprofessionals. Historic site identification is fairly balanced between the two groups.

The downward trend in paraprofessional acres being surveyed (Fig. 4-21) suggests a positive response to the criticism of the use of this program on a large-scale basis, and it appears that paraprofessional surveys will be primarily restricted to small projects (e.g. fencelines, pond construction, etc).

SITE DENSITY ON THE RANGER DISTRICTS

There have been 1,655 sites identified and recorded in the Black Hills National Forest through fiscal 1983. With 544,264 acres surveyed, that makes for a density of one site for every 328 acres (combined historic and prehistoric). Site density varies across the Forest, due in part to the amount of land already surveyed in each District, but a breakdown by District indicates the greatest concentration of sites is in the southern Hills, and not all of this is due to the relative number of acres surveyed.

It is true that the Custer District has both the greatest number of acres surveyed (125,578) and the largest number of sites (398)(Table 4-3). However, the Elk Mountain District, encircling the southwest part of the Hills, including the Hogback, has only 62,889 acres surveyed but has 340 sites recorded (Table 4-4). Three Districts, Harney, Spearfish and Nemo, have between 10,000 and 30,000 more acres surveyed, but none have more than 175 sites each (Tables 4-5, 4-6, 4-8).

**SUMMARY OF CULTURAL RESOURCE SURVEYS
BEARLODGE RANGER DISTRICT - 1975-1983**

A. National Forest Area Surveyed

Year	Professional		Paraprofessional		Total	
	Reports	Acres	Reports	Acres	Reports	Acres
1975	7	12,913	-	-	7	12,913
1976	4	6,817	-	-	4	6,817
1977	2	54	2	2,296	4	2,350
1978	-	-	3	4,946	3	4,946
1979	-	-	1	10	1	10
1980	-	-	1	16,780	1	16,780
1981	-	-	-	-	-	-
1982	-	-	-	-	-	-
1983	2	3,590	3	-	5	3,593
TOTAL	15	23,374	10	24,035	25	47,409

Average Survey Size: Professional = 1,558 Acres
Paraprofessional = 2,404 Acres

B. Prehistoric Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1975	-	-	-	-	-	-	-	-	-
1976	-	-	1	-	-	-	-	-	1
1977	-	1	-	-	2	3	-	3	3
1978	-	-	-	-	13	-	-	13	-
1979	-	-	-	-	3	-	-	3	-
1980	-	-	-	-	39	-	-	39	-
1981	-	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-
1983	-	-	6	-	-	-	-	-	6
TOTAL	-	1	7	-	57	3	-	58	10

Average Acres Per Site Found: Professional = 2,922 Acres
Paraprofessional = 401 Acres

C. Historic Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1975	-	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-	-
1977	-	-	-	-	1	-	-	1	-
1978	-	-	-	-	3	-	-	3	-
1979	-	-	-	-	1	-	-	1	-
1980	-	-	-	-	24	-	-	24	-
1981	-	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-	-
1983	1	-	2	-	-	-	1	-	2
TOTAL	1	-	2	-	29	-	1	29	2

Average Acres Per Site Found: Professional = 7,791 Acres
Paraprofessional = 829 Acres

Table 4-2

(Tables 4-2 through 4-8 are courtesy of the Black Hills National Forest)

**SUMMARY OF CULTURAL RESOURCE SURVEYS
CUSTER RANGER DISTRICT - 1974-1983**

A. National Forest Area Surveyed

Year	Professional		Paraprofessional		Total	
	Reports	Acres	Reports	Acres	Reports	Acres
1974	1	2	-	-	1	2
1975	3	3,549	-	-	3	3,549
1976	6	7,254	-	-	6	7,254
1977	6	3,637	17	4,037	23	7,674
1978	20	49,112	3	2,356	23	51,468
1979	13	7,346	2	44	15	7,390
1980	6	28,912	10	126	16	29,038
1981	5	5,889	-	-	5	5,889
1982	5	10,979	8	268	13	11,247
1983	-	-	4	2,067	4	2,067
TOTAL	65	116,680	44	8,898	109	125,578

Average Survey Size: Professional = 1,821 Acres
Paraprofessional = 202 Acres

B. Prehistoric Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1974	0	0	0	0	0	0	0	0	0
1975	0	0	1	0	0	0	0	0	1
1976	0	2	8	0	0	0	0	2	8
1977	0	14	2	0	0	1	0	14	3
1978	3	75	79	0	0	0	3	75	79
1979	0	8	10	0	0	0	0	8	10
1980	0	13	26	0	0	0	0	13	26
1981	1	0	3	0	0	0	1	0	3
1982	2	1	2	0	0	0	2	1	2
1983	0	0	0	0	1	0	0	1	0
TOTAL	6	113	131	0	1	1	6	114	132

Average Acres Per Site Found: Professional = 467 Acres
Paraprofessional = 4,449 Acres

C. Historic Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1974	1	0	0	0	0	0	1	0	0
1975	0	3	1	0	0	0	0	3	1
1976	0	7	1	0	0	0	0	7	1
1977	0	0	1	0	4	0	0	4	1
1978	0	23	40	0	0	0	0	23	40
1979	1	8	1	0	0	0	1	8	1
1980	4	2	15	0	1	1	4	3	16
1981	0	0	7	0	0	0	0	0	7
Re-eval.	0	0	0	0	-1	+1	0	-1	+1
1982	1	1	23	0	0	0	1	1	23
1983	0	0	0	0	0	0	0	0	0
TOTAL	7	44	89	0	4	2	7	48	91

Average Acres Per Site Found: Professional = 832 Acres
Paraprofessional = 1,483 Acres

Table 4-3

**SUMMARY OF CULTURAL RESOURCE SURVEYS
ELK MOUNTAIN RANGER DISTRICT
1974 - 1983**

A. National Forest Area Surveyed

Year	Professional		Paraprofessional		Total	
	Reports	Acres	Reports	Acres	Reports	Acres
1974	--	--	1	--	1	--
1975	3	4,877	--	--	3	4,877
1976	14	4,442	--	--	14	4,442
1977	3	7,202	25	9,532	28	16,734
1978	3	748	13	8,708	16	9,456
1979	4	1,266	6	6,841	10	8,107
1980	4	1,023	13	6,040	17	7,063
1981	--	--	7	1,829	7	1,829
1982	5	2,646	5	5,070	9	7,716
1983	3	151	6	2,514	9	2,665
TOTAL	38	22,355	76	40,534	114	62,889

Average Survey Size: Professional = 588 acres
Paraprofessional = 533 acres

B. Prehistoric Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1974	0	0	0	0	0	0	0	0	0
1975	0	3	6	0	0	0	0	3	6
1976	0	12	9	0	0	0	0	12	9
1977	9	47	41	0	7	0	9	54	41
1978	0	19	10	0	17	0	0	36	10
1979	0	21	23	0	4	0	0	25	23
(re-eval.)	0	-2	+2	0	0	0	0	-2	+2
1980	0	6	11	0	11	0	0	17	11
(Re-eval.)+5	-6	+1	0	0	0	0	+5	-6	+1
1981	0	0	0	0	2	0	0	2	0
1982	12	1	2	0	5	0	12	6	2
(Re-eval.)+4	-4	0	0	0	0	0	+4	-4	0
1983	0	1	2	0	2	0	0	3	2
TOTAL	30	98	107	0	48	0	30	146	107

Average Acres Per Site Found: Professional = 95
Paraprofessional = 844

C. Historic Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1974	0	0	0	0	1	0	0	1	0
1975	0	1	0	0	0	0	0	1	0
1976	0	1	0	0	0	0	0	1	0
1977	0	0	2	0	14	1	0	14	3
1978	0	0	2	0	12	1	0	12	3
1979	0	0	0	0	9	0	0	9	0
1980	0	0	0	0	3	0	0	3	0
1981	0	0	0	0	4	0	0	4	0
1982	0	0	1	0	1	0	0	1	1
1983	0	0	0	0	4	0	0	4	0
TOTAL	0	2	5	0	48	2	0	50	7

Average Acres Per Site Found: Professional = 3,194
Paraprofessional = 844

Table 4-4

**SUMMARY OF CULTURAL RESOURCE SURVEYS
HARNEY RANGER DISTRICT
1975 - 1983**

A. National Forest Area Surveyed

Year	Professional		Paraprofessional		Total	
	Acres	Reports	Acres	Reports	Acres	Reports
1975	14,785	3	--	--	14,785	3
1976	8,640	3	--	--	8,640	3
1977	197	3	3,459	18	3,656	21
1978	11,775	13	7,378	16	19,153	29
1979	6,763	4	4,482	8	11,245	12
1980	2,628	4	3,441	2	6,069	6
1981	4,394	6	--	--	4,394	6
1982	10,073	5	232	6	10,305	11
1983	3,627	3	1,349	4	4,976	7
TOTAL	62,882	44	20,341	54	83,223	98

Average Survey Size: Professional = 1,429 acres
Paraprofessional = 377 acres

B. Prehistoric Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1975	0	7	9	0	0	0	0	7	9
1976	0	18	13	0	0	0	0	18	13
1977	0	0	0	0	0	6	0	0	6
1978	0	7	11	0	1	1	0	8	12
1979	0	3	0	0	2	0	0	5	0
1980	0	0	0	0	0	0	0	0	0
(Re-eval.)+1	-1	0	0	0	0	0	+1	-1	0
1981	0	1	1	0	0	0	0	1	1
(Re-eval.)	0	+1	-1	0	0	0	0	+1	-1
1982	0	1	7	0	0	0	0	1	7
1983	0	0	0	0	0	0	0	0	0
(Re-eval.)+1	-1	0	0	0	0	0	+1	-1	0
TOTAL	2	36	40	0	3	7	2	39	47

Average Acres Per Site Found: Professional = 806
Paraprofessional = 2,034

C. Historic Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1975	0	4	0	0	0	0	0	4	0
1976	0	0	0	0	0	0	0	0	0
1977	0	1	0	0	3	0	0	4	0
1978	0	17	2	0	12	3	0	29	5
1979	0	0	5	0	2	0	0	2	5
1980	0	2	2	0	3	0	0	5	2
1981	0	1	3	0	0	0	0	1	3
(Re-eval.)	0	-1	+1	0	0	0	0	-1	+1
1982	0	3	15	0	0	0	0	3	15
1983	4	1	3	0	1	0	4	2	3
(Re-eval.)	0	0	0	0	-3	+3	0	-3	+3
TOTAL	4	28	31	0	18	6	4	46	37

Average Acres Per Site Found: Professional = 998
Paraprofessional = 848

Table 4-5

**SUMMARY OF CULTURAL RESOURCE SURVEYS
NEMO RANGER DISTRICT
1975 - 1983**

A. National Forest Area Surveyed

Year	Professional		Paraprofessional		Total	
	Reports	Acres	Reports	Acres	Reports	Acres
1975	7	11,092	-	-	7	11,092
1976	11	4,606	3	1,082	14	5,688
1977	8	6,077	13	16,228	21	22,305
1978	5	3,788	29	18,166	34	21,954
1979	2	14	12	9,220	14	9,234
1980	3	43	10	3,983	13	4,026
1981	2	33	6	1,367	8	1,400
1982	4	2,477	11	4,913	15	7,390
1983	3	6,511	6	1,749	9	8,260
TOTAL	45	34,641	90	56,708	135	91,349

Average Survey Size: Professional = 770 Acres
Paraprofessional = 630 Acres

B. Prehistoric Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1975	-	-	1	-	-	-	-	-	1
1976	-	1	1	-	-	-	-	1	1
1977	-	6	5	-	7	3	-	13	8
1978	-	2	3	-	4	1	-	6	4
1979	-	-	-	-	-	-	-	-	-
1980	-	-	-	-	1	-	-	1	-
1981	-	-	-	-	-	-	-	-	-
1982	-	6	3	-	3	-	-	9	3
1983	-	9	14	-	-	-	-	9	14
TOTAL	-	24	27	-	15	4	-	39	31

Average Acres Per Site Found: Professional = 679 Acres
Paraprofessional = 2,985 Acres

C. Historic Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1975	-	11	-	-	-	-	-	11	-
1976	-	2	-	-	-	-	-	2	-
1977	-	2	-	-	16	1	-	18	1
1978	-	3	3	-	4	5	-	7	8
1979	-	1	-	-	9	-	-	10	-
1980	-	-	-	-	3	-	-	3	-
1981	-	-	-	-	3	-	-	3	-
1982	-	-	1	-	-	-	-	-	1
1983	-	2	-	-	1	-	-	3	-
TOTAL	-	21	4	-	36	6	-	57	10

Average Acres Per Site Found: Professional = 1,386 Acres
Paraprofessional = 1,350 Acres

Table 4-6

**SUMMARY OF CULTURAL RESOURCE SURVEYS
PACTOLA RANGER DISTRICT
1976 - 1983**

A. National Forest Area Surveyed

Year	Professional		Paraprofessional		Total	
	Acres	Reports	Acres	Reports	Acres	Reports
1976	3,488	10	0	0	3,488	10
1977	3,941	6	6,149	7	10,090	13
1978	15,841	7	987	4	16,828	11
1979	116	2	12,688	15	12,804	17
1980	7,000	3	820	5	7,820	8
1981	393	4	5	1	398	5
1982	2,800	2	1	1	2,801	3
1983	7,499	5	110	1	7,609	6
TOTAL	41,078	39	20,760	34	61,838	73

Average Survey Size: Professional = 1,053 acres
Paraprofessional = 611 acres

B. Prehistoric Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1976	0	0	0	0	0	0	0	0	0
1977	0	3	4	0	0	1	0	3	5
1978	0	29	20	0	0	0	0	29	20
1979	0	0	1	0	5	3	0	5	4
1980	0	0	0	0	0	1	0	0	1
1981	0	2	0	0	0	0	0	2	0
1982	2	0	5	0	0	0	2	0	5
1983	0	0	3	0	0	0	0	0	3
TOTAL	2	34	33	0	5	5	2	39	38

Average Acres Per Site Found: Professional = 595
Paraprofessional = 2,076

C. Historic Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1976	2	4	0	0	0	0	2	4	0
1977	0	3	0	0	5	1	0	8	1
1978	0	7	11	0	1	0	0	8	11
1979	0	0	0	0	12	11	0	12	11
(Re-eval.)	0	0	0	+1	-1	0	+1	-1	0
1980	0	5	8	0	0	0	0	5	8
(Re-eval.)	0	0	0	0	-1	+1	0	-1	+1
1981	0	3	2	0	0	0	0	3	2
1982	1	0	4	0	0	0	1	0	4
(Re-eval.)	0	0	0	0	-2	+2	0	-2	+2
1983	5	0	16	0	0	0	5	0	16
TOTAL	8	22	41	1	14	15	9	36	56

Average Acres Per Site Found: Professional = 597
Paraprofessional = 692

Table 4-7

85

**SUMMARY OF CULTURAL RESOURCE SURVEYS
SPEARFISH RANGER DISTRICT - 1974-1983**

A. National Forest Area Surveyed

Year	Professional		Paraprofessional		Total	
	Reports	Acres	Reports	Acres	Reports	Acres
1974	1	46	-	-	1	46
1975	5	5,581	-	-	5	5,581
1976	14	13,536	-	-	14	13,536
1977	1	1,979	10	7,486	11	9,465
1978	2	6,453	14	6,880	16	13,333
1979	-	-	6	8,005	6	8,005
1980	-	-	9	6,250	9	6,250
1981	-	-	4	852	4	852
1982	3	5,300	3	1,161	6	6,461
1983	3	7,314	5	1,135	8	8,449
TOTAL	29	40,209	51	31,769	80	71,978

Average Survey Size: Professional = 1,387 Acres
Paraprofessional = 623 Acres

B. Prehistoric Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1974	-	-	-	-	-	-	-	-	-
1975	-	5	14	-	-	-	-	5	14
1976	-	3	5	-	-	-	-	3	5
1977	-	1	-	-	1	-	-	2	-
1978	-	6	4	-	1	-	-	7	4
1979	-	-	-	-	1	-	-	1	-
1980	-	-	-	-	1	-	-	1	-
1981	-	-	-	-	1	-	-	1	-
1982	-	6	8	-	-	-	-	6	8
1983	-	4	11	-	-	-	-	4	11
TOTAL	-	25	42	-	5	-	-	30	42

Average Acres Per Site Found: Professional = 600 Acres
Paraprofessional = 6,354 Acres

C. Historic Sites Found

Year	Professional			Paraprofessional			Total		
	I	II	III	I	II	III	I	II	III
1974	-	-	-	-	-	-	-	-	-
1975	-	1	1	-	-	-	-	1	1
1976	-	11	1	-	-	-	-	11	1
1977	-	4	-	-	12	2	-	16	2
1978	-	10	-	-	1	1	-	11	1
1979	-	-	-	-	5	-	-	5	-
1980	-	-	-	-	2	-	-	2	-
1981	-	-	-	-	1	-	-	1	-
1982	-	2	2	-	-	-	-	2	2
Reevalu- ation	-	-	-	-	(-2)	(+2)	-	(-2)	(+2)
1983	9	2	4	-	1	-	9	3	4
TOTAL	9	30	8	-	20	5	9	50	13

Average Acres Per Site Found: Professional = 856 Acres
Paraprofessional = 1,271 Acres

Table 4-8

There remains roughly one-half of the Black Hills National Forest to be surveyed for cultural resources. Based on the quality of fieldwork now being conducted, and on the reports being generated, there appears to be good reason for optimism in the future identification, recordation and reporting of cultural resources on the Forest. The potential for obtaining a firm grasp on settlement and subsistence patterns in the region seems high. Significant sites under federal management will likely be afforded the necessary protection to assure their survival.

From a general standpoint, excluding Ranger District boundaries, aboriginal camps tend to be located along stream channels in open valleys on low terraces. Aboriginal quarries generally are on ridgetops or other elevated terrain along the outer edges of the Hills. From a density standpoint, there are a significantly greater number of prehistoric sites along the Hogback (all sides of the Hills), and in the southern Hills, with a progressive diminishing of sites toward the Central Area. Much of the Central Area appears to have the best water availability, but this does not seem to be the principal factor in site selection. Of course the relative lack of aboriginal sites in the Interior may not reflect reality, due to the lush vegetation there that obscures the ground surface. However, the milder climate of the southern Hills would make it at least a better wintering area, perhaps explaining the obvious higher site density there.

Historic habitations are concentrated in many of the same areas selected by prehistoric foragers. These are along open valleys. A great number of Black Hills acreage is still held in private ownership and has been unsurveyed by archaeologists. Anglo habitations are spread across the entire Hills, and the Central Area appears to be a highly preferred zone. Historic mining sites are concentrated in the Central Area, but actual locations are not as predictable as habitations. Only minimal mining activities have taken place outside of the igneous and metamorphic outcrops.

To capsulize these observations, aboriginal sites are primarily on the outer margins of the Hills and in the southern Hills, although the pattern may be due to lower ground visibility in the Interior. Historic habitations are spread across the whole Hills, with a preference for open valleys along water. Historic mining is primarily confined to igneous and metamorphic outcrops of the Interior. No area of the Hills could be considered "void" of sites.

SUMMARY

The Black Hills hold an ample number of prehistoric sites, the remnants of foraging societies who visited the region since the waning years of the Pleistocene. The Black Hills National Forest, as the single largest block of land under the control of one owner or land managing agency (the U.S. Forest Service), contains representative samples of the entire spectrum of the known past human activity there.

Compared to some regions of North America (e.g. American Southwest, Mississippi Valley), the Black Hills have only recently come under the scrutiny of prehistorians, with a major push beginning in the 1970's. As such, our knowledge of this "island" is limited. Given the increase in survey and excavation over the past decade, one would expect an evergrowing body of knowledge about the region. Questions about potential cultural gaps may yet be answered as field investigations continue. Increased industrial exploration and development, as well as the burgeoning tourist and curious-seeking public do pose threats to the fragile cultural resources, and only the maintenance of firm management policies, and their enforcement, will insure this legacy of our past for future generations.

5 Management Recommendations: Prehistoric Sites

The management of prehistoric sites within the Black Hills involves several subjects. These include identification, evaluation, nomination to the National Register, protection and interpretation. Of these, the identification is perhaps the most basic, and is also that area best handled thus far in the Forest.

Since the initiation of systematic cultural resource surveys in the Black Hills National Forest, 1,011 prehistoric sites have been located, plotted and recorded. The number grows daily as large land blocks are covered in advance of new timber sales. That process should continue at the current rate (20,000 to 40,000 acres per year) until the entire Black Hills National Forest is covered. As part of this, it is recommended that all large block surveys (excess of 1,000 acres) be undertaken only by professionals who work with a minimum of a two-person crew. Paraprofessionals, working alone, should conduct only small linear or block surveys in conjunction with minor projects (e.g. fence lines, water impoundments, etc). The disparity in the sites to acreage ratio between professional and paraprofessional (Tables 4-2 through 4-8) would seem to support this recommendation.

Current policy in surveying has been to conduct minimal test excavations at prehistoric sites to determine potential eligibility to the National Register, and it is recommended that such an approach continue. However, prior to about 1981, sites were generally recorded without benefit of a test excavation. As a result, a large number of those sites, primarily prehistoric, are yet listed as requiring further evaluation prior to determining eligibility/significance. It is recommended that the Black Hills National Forest undertake a systematic evaluation of all sites that have indeterminate status. Principally, this will require a review of the original reports, examination of the collections, site revisitation and test excavations. This will result in a more complete knowledge of cultural properties on the Forest and eliminate the backlog of sites currently listed as needing more research. This would seem to better comply with the mandates of the National Historic Preservation Act of 1966 as amended.

Those sites found to be eligible to the National Register should then, along with those already determined eligible, be nominated to the Register. This could be accomplished in one of three ways. Each site could be nominated individually, although this would be the most time consuming. A second

option would be to nominate sites to the National Register that fall within a geographically definable area and could constitute a historic district. The third option would be to nominate a number of sites that are tied together by cultural or thematic similarities, falling under the umbrella of what is known as a Multiple Resource Nomination. In this case, some geographic separation could occur between properties.

From the basis of site types, significant prehistoric cultural resources in the Black Hills National Forest include camps (stone circles, rockshelters and open air nonarchitectural camps), quarries and rock art panels. Some site types (e.g. lithic scatters) are ambiguous in function, and thus hard to categorize. Kill sites and butchering stations have been inferred on the basis of tool assemblages (Tratebas n.d.), but no actual bone beds with tools have been located to confirm these inferences.

Examples of the best prehistoric camps include clusters of stone circles, such as those found at 39CU468 (Cassells 1980f) or at the multicomponent (Paleo through Late Prehistoric) Twin Sisters site, 39CU566 (Cassells 1981f). Rockshelters are primarily in the southern Hills, as at 39CU152 and 39CU158 (Groenfeldt 1978), or at 39FA313 (Haug 1977a). Some of these rockshelters also have accompanying rock art, like 39FA316 (Haug 1977a), 39FA447 (Haug 1977b) and 39FA395 (Haug 1977b; Chevance 1978b). Open, nonarchitectural camps include 39FA302 (Haug 1977a), 39CU242 (Sigstad and Jolley 1975) and 48CK457 (Cassells 1982b).

Stone quarry sites, the sources for raw material to be used in tool production, tend to cluster around the edges of the Hills, and include 48CK457 and 48CK459 in the northwest (Cassells 1982b), and to the south are 39FA539 (Chevance 1980), 39CU19 (Tratebas 1979c) and 39CU473 (Cassells 1980f).

Numerous rock art panels in the southern Hills have been documented by Sundstrom (1984), and in 1982, a large number of them were placed on the National Register of Historic Places as a District, including both Forest Service and private properties.

Protection of sites on U.S. Forest Service land is a difficult task. Prehistoric sites are afforded a bit more security than are many historic ones, due to the greater degree of difficulty in locating them. The highest danger to prehistoric properties comes from vandals, from erosion and damage due to roads that intersect them, and from development. The policy of the federal government to treat any potentially eligible site the same as one actually on the Register is a good one, and has undoubtedly saved a number of significant sites from destruction.

Vandalism is most prevalent on rock art panels, where initials and dates are carved alongside or over the prehistoric art. Collectors have impacted some sites within the Hills, but the actual extent is indeterminate. In a relative sense, neither collecting or vandalism appears to be as widespread or as damaging as in some other parts of the West. This is not to minimize the problem, but perhaps makes more optimistic the feeling that public education can effectively aid in bringing a halt here to vandalism and collecting altogether.

To that end, it is recommended that interpretive signs be placed at strategic locations of rock art panels, with information on the art, along with a strong emphasis on conservation of these finite, non-renewable resources. In addition, the U.S. Forest Service is encouraged to initiate a public relations campaign, much like the Smoky Bear/Prevent Forest Fires program, on a local, much more restricted level, only directed at protecting cultural resources. This could include public service announcements on radio, television, articles in various regional newspapers, and the distribution of flyers, brochures and posters. At present, the Forest Service has one brochure designed to encourage site conservation. This could be augmented with evening lectures at various campgrounds and at meetings of organizations throughout the Black Hills. The best avenue to defense illegal collecting/digging and vandalism is by educating the public about the value of the remains and their fragile nature.

Individuals within each Ranger District should be alerted to the problems of unauthorized collecting/excavating and vandalism. These individuals should be appointed to be part of an aggressive law enforcement policy, watching for violators and bringing those apprehended to justice.

Protection and interpretation go hand in hand. In the long run, placing a site off-limits may only increase the desire of a potential vandal or pothunter to gain access. Some sites lend themselves well to interpretation, and given the proper approach, not only introduce the visitor to the details of the earlier inhabitants, but can increase respect for the past and encourage preservation. It is recommended that a number of sites be pointed out to the public, and their histories explained (see Chapter 12).

6 Ethnohistory

INTRODUCTION

The principal culture within the Black Hills National Forest at the time of initial Euro-American contact were the various sub-bands of the Teton (Lakota) Sioux. Though they were perhaps the largest of the groups to utilize the Black Hills, they were only one of many to have spent time there. What follows is a summary of the primary historic Indian populations that frequented these two states from ca. 1600 until the time of military conflict and reservation life in the mid to late 1800's.

KIOWA AND KIOWA-APACHE

The earliest knowledge of the Kiowa places them ca. A.D. 1700 at the headwaters of the Missouri River near Bozeman, Montana (Mooney 1898:155). From there, they migrated to the southeast, allying with an Athabaskan-speaking group known as Kiowa-Apache or Gataka Apache. The Kiowa-Apache were neither Kiowa nor Apache, although they eventually adopted all of the Kiowa cultural practices, except for the language (Mayhall 1962). For a long time, the Kiowa language was seen as a distinct form with no determinable relationships to other groups (e.g. Hodge 1912). More recent analysis (Trager and Trager 1959) suggests a distant linguistic connection with the Tanoan language of some Rio Grande Pueblo populations. This may indicate that prior to the Montana residence by the Kiowa, they may have lived farther toward the southwest. From Montana, they went to the Black Hills, reaching there sometime prior to the entrance by the Sioux in 1775-76 (Mallery 1886). Sometime between 1775 and 1805 they left the Black Hills region because of hostile relations with the Cheyenne and Sioux (Mooney 1898:156-57). Louis and Clark recorded the Kiowa being on the North Platte River of western Nebraska in 1805 (Thwaites 1969), before they moved farther south. Their first treaty was made with the U.S. Government in 1837, and they were placed on an Oklahoma reservation with the Comanche and Kiowa-Apache (Mayhall 1962; Hodge 1912).

ARIKARA

The Arikara, primarily known from the Missouri River in central South Dakota, were first documented in 1738 (Smith 1980). The Arikara (or Ree) were distinguishable from the Mandan and Hidatsa, other villagers upriver. They may have come into the Big Bend area of the Missouri River shortly after A.D. 1400 (Meyer 1977:8), though they may be traceable into the Initial Coalescent there, pushing their antiquity back a few more centuries. According to La Verendrye, the Arikara obtained horses by 1738, and perhaps a few years before the Mandan and Hidatsa. Though the horse did assist their economy,

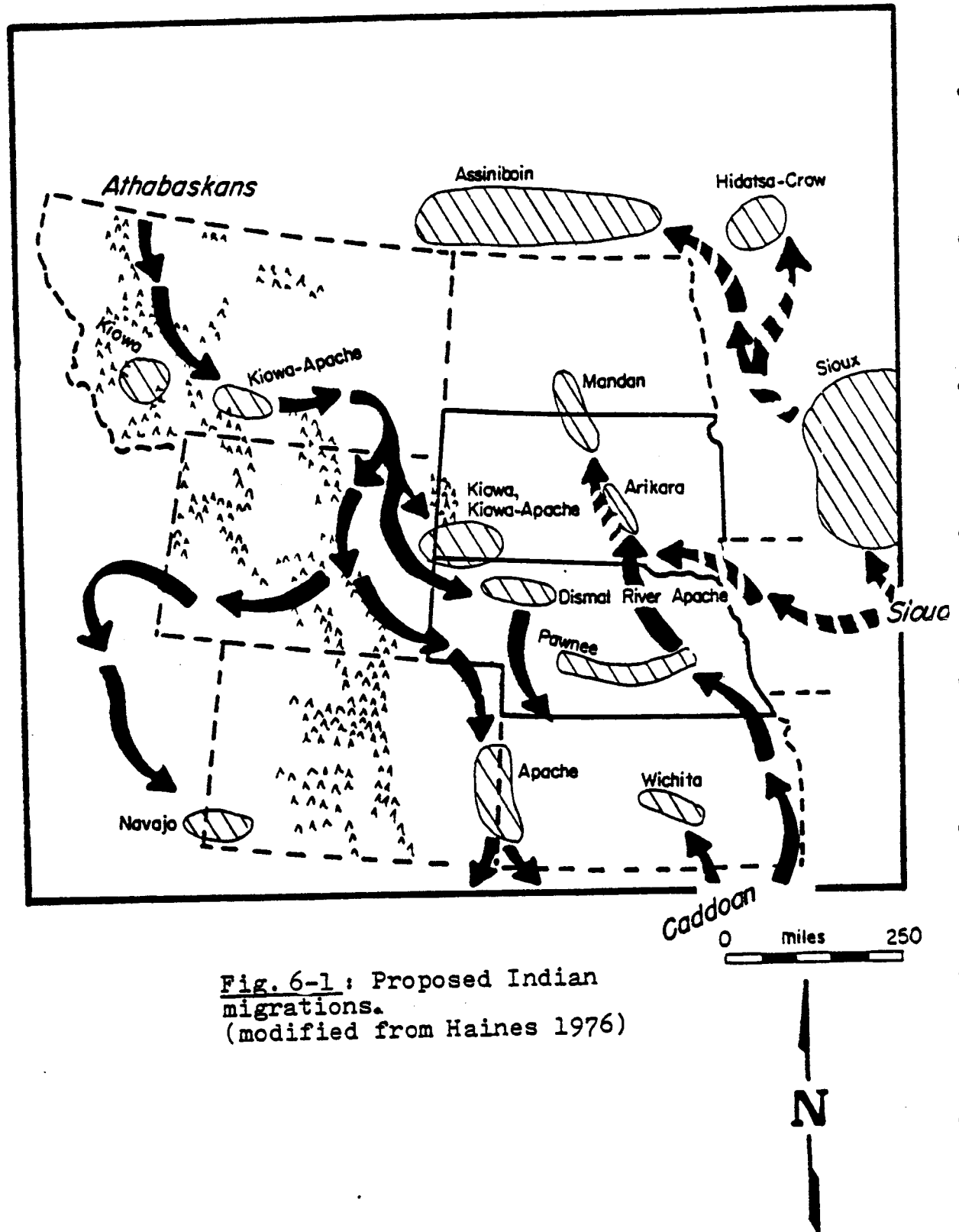


Fig. 6-1: Proposed Indian migrations.
(modified from Haines 1976)

neither they nor the Mandan or Hidatsa changed radically as a result of its acquisition.

Like other plains villagers, they lived in earth lodges and farmed corn, beans and squash along the river bottoms. Arikara villages did change locations through time, moving from the southern South Dakota border to near the mouth of the Grand River prior to 1789 (Denig 1961:42). In 1795, they were at the mouth of the Cheyenne in central South Dakota. From this location they apparently split, due to internal dissention, with part going north to the Mandans and part wandering to the south, where they spent several years with the Skidi Pawnee in Nebraska (Trudeau 1912:31; Libbey 1973). By this time, they had undergone significant population reduction, due to smallpox epidemics and pressure from the Santee and Teton Sioux. Trudeau observed that from a total of 32 villages, they were condensed into two by 1795 (Trudeau 1912:28).

Deetz (1965) undertook an ambitious research project dealing with the Arikara that became a seminal work in processual archaeology. He hypothesized that in societies practicing matrilineal post-marital residence (daughters with new husbands remaining in village of parents), evidences of continuity in female-produced (e.g. ceramic) attributes would be recoverable in archaeological contexts. There would presumably be a nonrandom clustering of traits, such as decoration, that would continue through time. The assumption about the sexual division of labor extending from the ethnographic present into the prehistoric past is perhaps an unavoidable weakness in the scheme, if one is to pursue this avenue of research. Others (Longacre 1970; Hill 1970) have built upon the work of Deetz, searching prehistoric pueblo sites for post-marital residence and social structure evidences. Deetz gathered his data from the Medicine Crow site in South Dakota (ca. A.D. 1690-1780), and concluded that through time, due to population decrease, hostile relationships with outside groups, and ecological and economic changes, there was a breakdown in the strict matrilineal residence rules. This was evidenced in the change to a more random ceramic attribute distribution. Though some of the assumptions and conclusions of this study may be questioned, his work opened the door for a number of other processual archaeologists and encouraged more experimentation and a deeper level of analysis of the existing data base.

MANDAN AND HIDATSA

The Mandan and Hidatsa were two Missouri River village groups with similar cultures. Though they share the Proto-Siouan language family, the Hidatsa are in the Missouri River language group with the Crow, while the Mandan are separate (Hollow and Parks 1980). A glottochronology study indicates

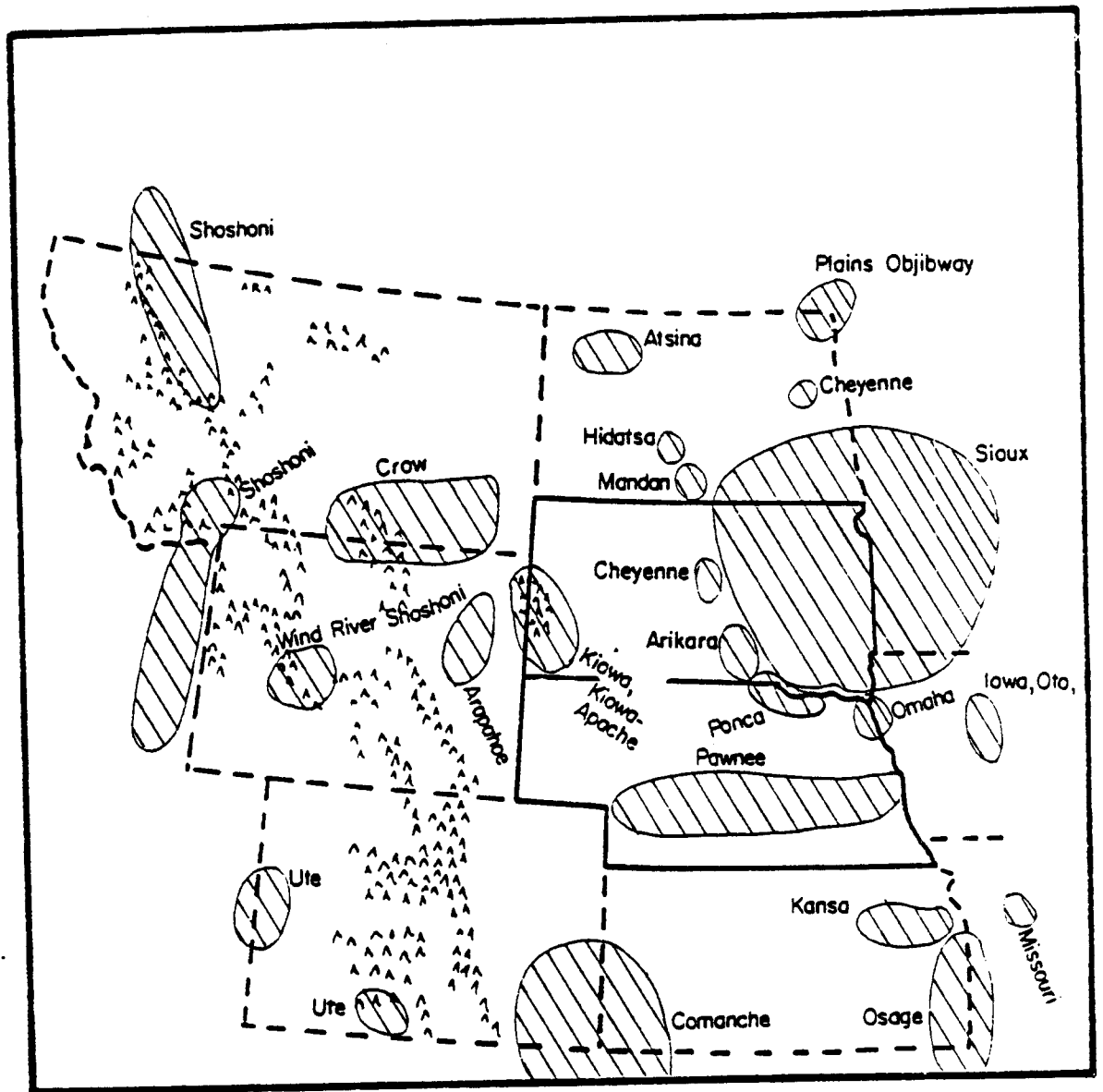


Fig. 6-2: Indian territories
ca. 1780.
(modified from Haines 1976)

0 miles 250



Hidatsa	Mandan	Winnebago	Dakota	Osage	Biloxi	
0.6	1.9	2.2	2.7	3.2	3.7	Crow
	1.5	1.8	2.1	2.8	2.9	Hidatsa
		1.8	1.6	2.1	2.7	Mandan
			1.3	1.2	2.3	Winnebago
				1.2	2.6	Dakota
					1.8	Osage

(Figures indicate millennia of separation.)

Table 6-1: Glottochronology of selected Siouan languages (Hollow and Parks 1980).

did not divide culturally until ca. A.D. 1700, at which time the Crow proceeded west, adopted horses, and settled along the Yellowstone River in Montana (Haines 1976). Of course, the language distinctions could have been developing long before any geographic separation.

The Mandan and Hidatsa lived in circular earthlodges similar to the Arikara, but evidence points to earlier prehistoric villages with rectangular houses. By A.D. 1500, fortifications were being built, and by 1650 their territory had constricted into southern North Dakota, maintaining their defensive villages throughout the change in locale (Wood 1967: 130; Meyer 1977:8). The Mandan are thought to have been derived from the Middle Missouri Tradition. Archaeologists investigating later Mandan and Hidatsa villages have failed to distinguish between them, further supporting the observance of strong similarities in the material culture of the two (Calabrese 1972). Whether the Mandan can be traced into such early village complexes to the south like Mill Creek has yet to be determined (Ludwickson, Blakeslee and O'Shea 1981:389).

In 1804-05, Lewis and Clark spent the winter at Fort Mandan, near the Knife River of North Dakota, and in the vicinity of several Mandan and Hidatsa villages (Thwaites 1969). By this time, smallpox had begun to drastically reduce the Indian populations. In 1750 there were 9,000 Mandan known on the river, but by 1837, after successive epidemics, only 23 Mandan males could be counted (Bruner 1961: 187; Lehmer 1971).

a separation of the Hidatsa from the Crow about 600 years ago, while the Hidatsa and Mandan separated 1,500 years ago. Both the Hidatsa and Mandan were first observed by Verendrye in 1738 (Smith 1980). The Mandan are thought to have entered the Dakotas from the east, and appear to have been made up originally of at least three separate bands with distinct dialects (Bowers 1950). Hidatsa traditions have them coming into the same area from the north-east, in company with the Crow. In perhaps somewhat of a contradiction of the language studies (Table 6-1), some feel the Crow and Hidatsa

CHEYENNE

The historic Cheyenne, of the Algonkian language stock, migrated west to the Red River (North Dakota-Minnesota border) perhaps as early as 1700. Within 30 to 40 years, some had moved to the Missouri River, adopting the Plains Village lifeway and becoming farmers (Grinnell 1923). Sometime ca. 1760 the horse was introduced into their villages, and it brought about a new freedom that would alter the course of their cultural development forever. Explorations into the western prairie led to the discovery of Bear Butte on the northern edge of the Black Hills. They tell of meeting the All-Father Creator there, Ma⁷he⁷o, and from that point on, there developed the richest part of their ceremonial life (Powell 1969). By 1830 they had totally assimilated the horse, and abandoned sedentism for a nomadic lifeway on the short-grass prairie.



Fig. 6-3: A Cheyenne family in their north country of Montana in 1895 (Smithsonian Institution).

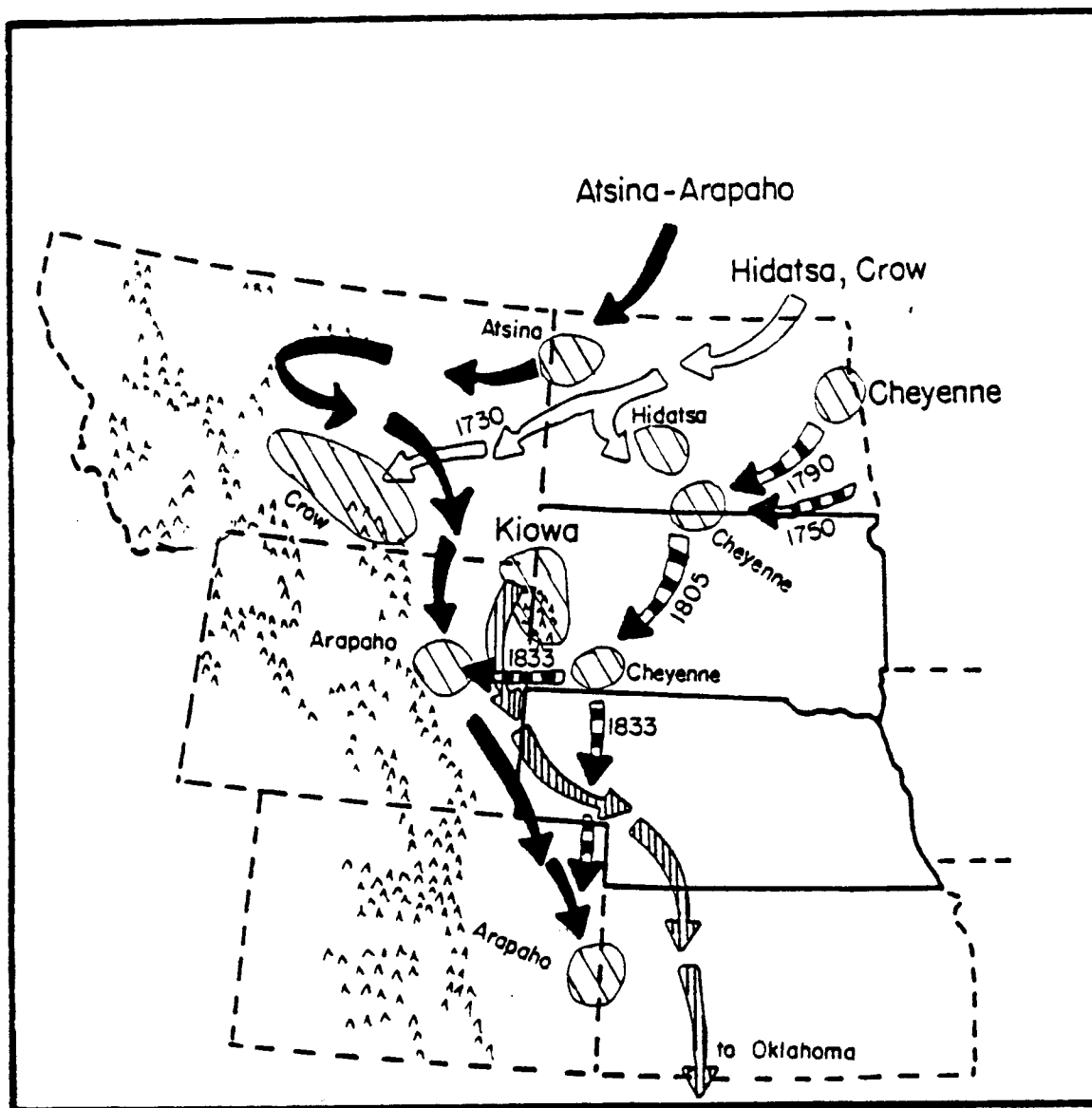


Fig. 6-3: Migration of Atsina-Arapahoe, Kiowa, Kiowa-Apache, Hidatsa-Crow and Cheyenne, A.D. 1700-1833 (Haines 1976)

0 miles 250



TABLE 6-2

Initial Contact and Horse Acquisition for Selected Tribes
(from Wissler 1914:6)

<u>TRIBE</u>	<u>FIRST VISIT</u>	<u>FIRST MENTION OF HORSES</u>
Arapahoe	1804 Lewis & Clark	
Arikara	1738 La Verendrye	1738 La Verendrye
Assiniboine	1658 Jesuits	1748 La Verendrye, Jr.
Blackfoot	1751 Saint Pierre	1751 Saint Pierre
Cheyenne	1680 La Salle	
Comanche	1714 La Harpe	1714 La Harpe
Crow	1742 La Verendrye, Jr.	1742 La Verendrye, Jr.
Gross Ventre	1784 Umfreville	1784 Umfreville
Hidatsa	1738 La Verendrye	1742 La Verendrye, Jr.
Kansas	1601 Onate	1755
Kiowa	1680 La Salle	1680 La Salle
Iowa	1676 Zenobius	1724 Meade
Mandan	1738 La Verendrye	1742 La Verendrye, Jr.
Missouri	1682 Tonty	1682 Tonty
Omaha	1761 (?)	
Osage	1694 Gravier	1719 Du Tisne
Oto	1680 La Salle	
Pawnee	1541 Coronado (?)	1704 Dunbar
Plains Cree		1738 La Verendrye
Ponca	1804 Lewis & Clark	
Santee	1662 Radiseon	1740 Peter Pound
Sarsi	1784 Umfreville	1784 Umfreville
Snake	1742 La Verendrye, Jr.	1742 La Verendrye, Jr.
Teton	1680 La Salle	1742 La Verendrye, Jr.
Wichita	1541 Coronado	

It has been suggested (Holder 1970) that the Cheyenne were more receptive to nomadism than were the Caddoan, Mandan and Hidatsa, based on a lower degree of social stratification and religious sanctions. The Arikara certainly had an equal opportunity to use mobile plains hunting for major subsistence, but they resisted. Security through social organization may have been the major factor in the Caddoan and village Siouan decisions to retain sedentism.

During the early 1800's, the Cheyenne ranged from the Missouri River of South Dakota down to the Arkansas River of Colorado and Kansas, often in association with the Arapaho. However, their primary territory was from the Black Hills to the Big Horns. When Bent's Fort was built on the Arkansas in southeast Colorado (at the encouragement of Yellow Wolf and other Cheyenne chiefs), the informal regionalization of the scattered groups became official, with part of them centering around the Bent territory, and the remainder with the Arapaho in Wyoming and Nebraska. From that point on, they have been known as the Southern and Northern Cheyenne (Berthrong 1963; Powell 1980).

Grinnell (1923) felt the Cheyenne retained some matrilineal traits from their brief stay on the Missouri River, though others feel the argument unconvincing (Hoebel 1960:22). In actuality, they are bilateral in descent. Their high regard for their women is widely known, a unique plains attribute, and this may indeed have its roots in agricultural society.

Between 1857 and 1879, the Cheyenne were drawn into military conflicts, due initially to the White's inability to discriminate between Indian populations. They did take part in the Battle of the Little Big Horn (Stands in Timber and Liberty 1967), but only after having felt the bitterness of the Sand Creek Massacre (Hoig 1961) and other lesser atrocities. The destruction of the Dull Knife camp in Wyoming by MacKenzie and the final "Cheyenne Outbreak" from Fort Robinson (U.S. Congress 1880; Powell 1969) essentially ended their way of life. A remnant exists today on the Oklahoma and Montana reservations.

TETON DAKOTA (SIOUX)

The Sioux "Nation" was an extremely large group at the time of Anglo contact. In 1780, a census indicated they were the most numerous of the plains groups with 27,000 individuals (Haines 1976:102). Of principal importance to this report are those Sioux that resided in the western half of South Dakota, although they should first be placed in the context of the entire tribe.

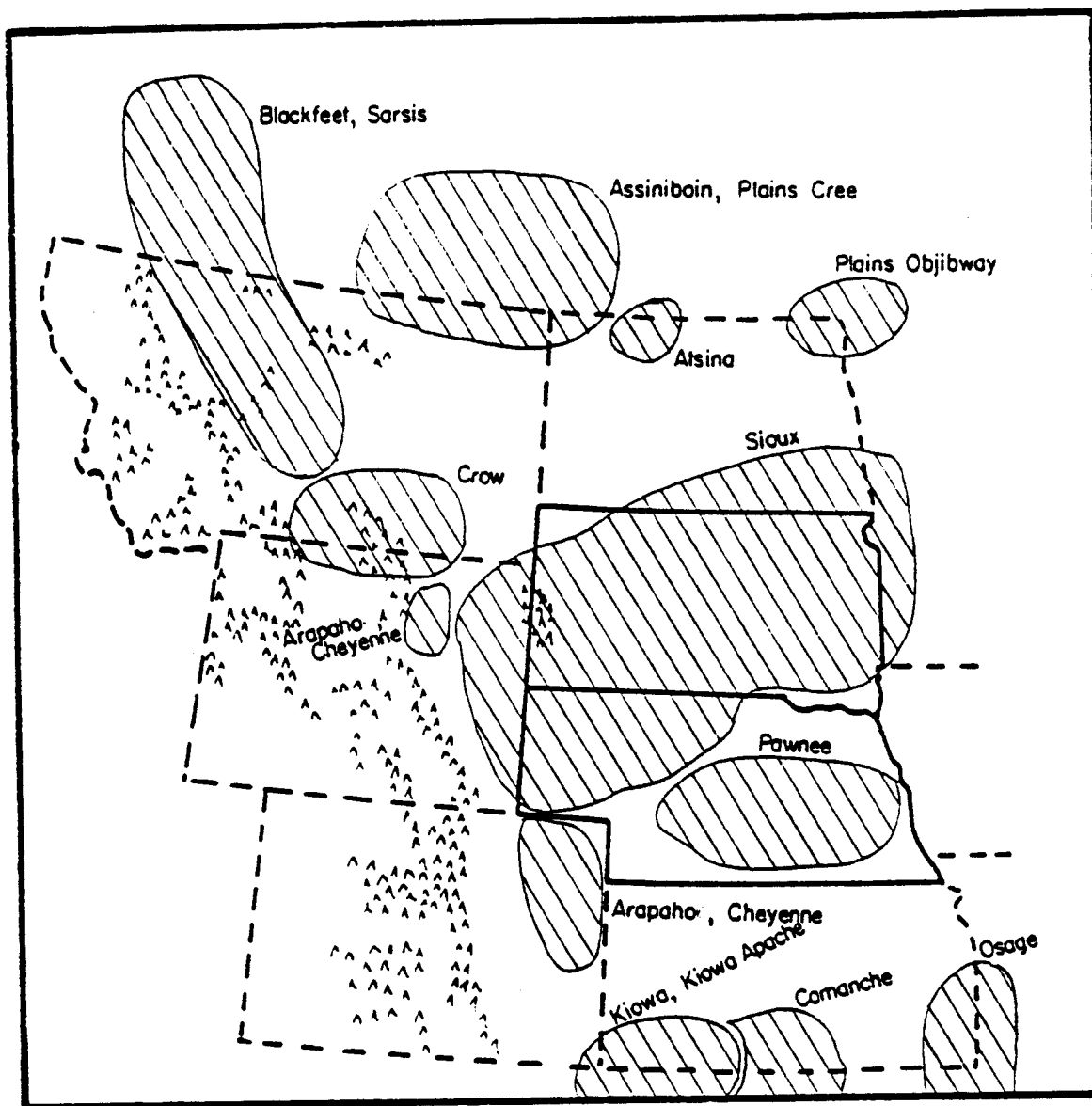


Fig. 6-4: Indian land holdings, 1850.
(modified from Haines 1976)

0 miles 250

N

The Teton Sioux band are composed of seven sub-bands: Oglala, Brule, Miniconjou, Hunkpapa, Sans Arc, Blackfoot and Two Kettle (Hassrick 1964). This grouping of seven should not be confused with the larger Seven Council Fires - a reference to the seven tribes that make up the nation. The name "Sioux" apparently came from the French perversion of the Chippewa term for them - "Nado-weisiw-eg" - (Lesser Adders or Snakes). Their preferred name was Dakota (Hassrick 1964:6). The entire nation held the Siouan language family in common (Mississippi Valley group), a linguistic type that also includes the Chiwere (Winnebago, Iowa, Oto, Missouri) and Dhegiha (Omaha, Ponca, Osage, Kansa, Quapaw) (Hollow and Parks 1980). A more distant linguistic relationship are the Biloxi, Ofo and Tutelo from the Southeast. Some have suggested that this Southeast linguistic similarity indicates the Dakota had migrated out from the Southeast (Swanton 1936), but it is just as likely that the Southeastern groups moved there from the upper Mississippi Valley. By far the majority of Proto-Siouan speakers are known from the upper and middle Mississippi Basin.

Le Sueur, periodically on the upper Mississippi and the Blue Earth Rivers from 1683 to 1701, observed that the "Sioux of the West" had no horticulture, gathered no wild rice, but "lived only by the hunt". The Teton were described as "wandering without villages" (Wedel 1974:165-66). The Tetons were known at Sauk Rapids in west-central Minnesota, but in 1670 moved with the other "Western" bands to the Mankato vicinity at the junction of the Minnesota and Blue Earth Rivers. At this point the Yankton crossed to the south, remaining in the southeast corner of the state, while the Yanktonai went up the Minnesota River, crossing the state border near Lake Traverse. The Teton broke into the Brule and Oglala and moved west through the Yankton grounds to the James River. The two Teton groups remained highly nomadic at this time, covering a large ill-defined territory. The five remaining Teton bands, nicknamed the "Saones" (Shooters among the Trees) by the Oglala and Brule, followed the Yanktonai route north, staying at Lake Traverse until ca. 1720. Their migration into South Dakota may be related to the final retraction of the Mandan into North Dakota (Blair 1911; Riggs 1926; Froiland 1978; Hyde 1937).

The Oglala and Brule began drifting west on foot ca. 1700 in quest of the buffalo herds, as these herds had been diminishing in numbers in the Blue Earth River vicinity (Hyde 1937). La Verendrye (Smith 1980) reported that the Dakotas had some horses in 1742. However, it was not until later that they had large numbers of them (Hyde 1937). The Sioux reached the Missouri by 1760, coming into contact with the Arikara. Though the Sioux traded with them, there were also hostilities. The Sioux were not able to conquer the fortified villages, and

so free access into the western plains was restricted. Thus, Dakota distribution predominated east of the Missouri for several additional years. Then, in the 1770's, a combination of smallpox epidemics and raids by the Santee Sioux of Minnesota (who had a large supply of firearms) eliminated the Arikara threat and opened the West River area to the Dakota (Hyde 1937; Hassrick 1964). The Brule settled along the White River, and the Oglala went between the Bad and Cheyenne Rivers. The "Saones" moved west from Traverse Lake and divided into the five sub-bands in northwest South Dakota.

According to the Corbusier winter counts of American Horse (Mallery 1886:130-31), a war party led by Standing Bull first entered the Black Hills in 1775-76. After that time, the Black Hills became a regular hunting ground for the Dakota.

In 1855, when Harney's "Sioux Expedition" went from Fort Pierre to Fort Kearney to Fort Laramie and back to Fort Pierre (Warren 1856), the Sioux were still in large numbers. Lieutenant Warren mentions the Tetonwans (Tetons) ranged west from the Missouri in South Dakota and south to the land between the forks of the Platte. He distinguished the seven sub-bands as follows:

1. Unkpapas, they who camp by themselves - 365 lodges, live on Missouri near Moreau River mouth, and hunt between the Big Sheyenne and the Yellowstone.
2. Sihaspapas, Blackfeet - 165 lodges, with same territory as Unkpapas.
3. Oo-he-non-pas, two boilings or two kettle band - 100 lodges, scattered among the other bands.
4. Sichangus, burnt thighs, Brules - 480 lodges, live on White River and contiguous land.
5. Oglalas, they who live in the mountains - 360 lodges, live between the forks of the Platte.
6. Minikanyes, they who plant by the water - 200 lodges, live between the forks of the Sheyenne and in the Black Hills.
7. Itahzipchois, Bowpith, Sans Arc - 170 lodges, live in Minikanyes territory.

Total of 24,000 "inmates", 3,000 lodges and 4,800 warriors (Warren 1856:16).

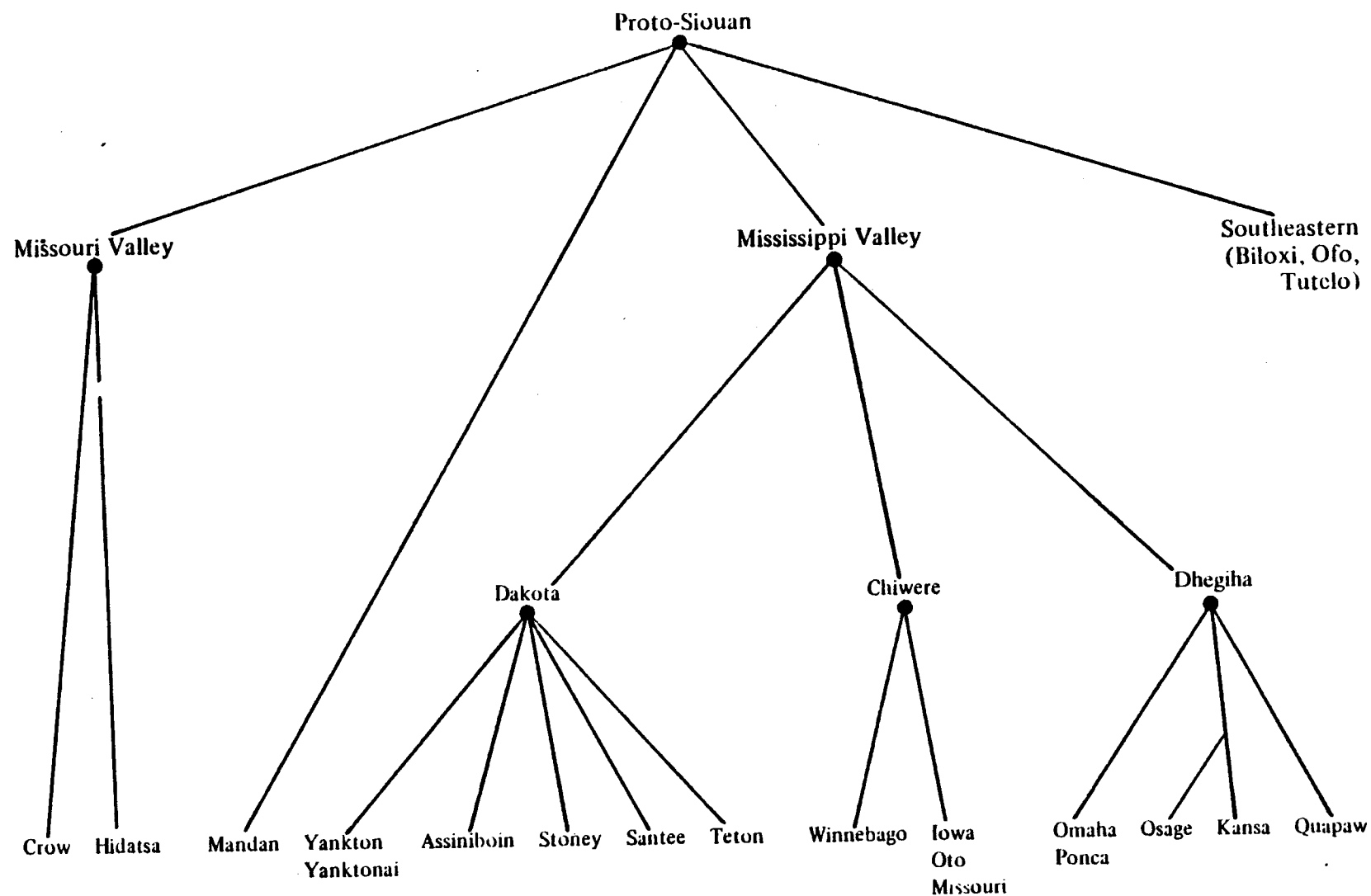


Fig. 6-5: Proto-Siouan
language subgroupings
(Hollow and Parks 1980:76)

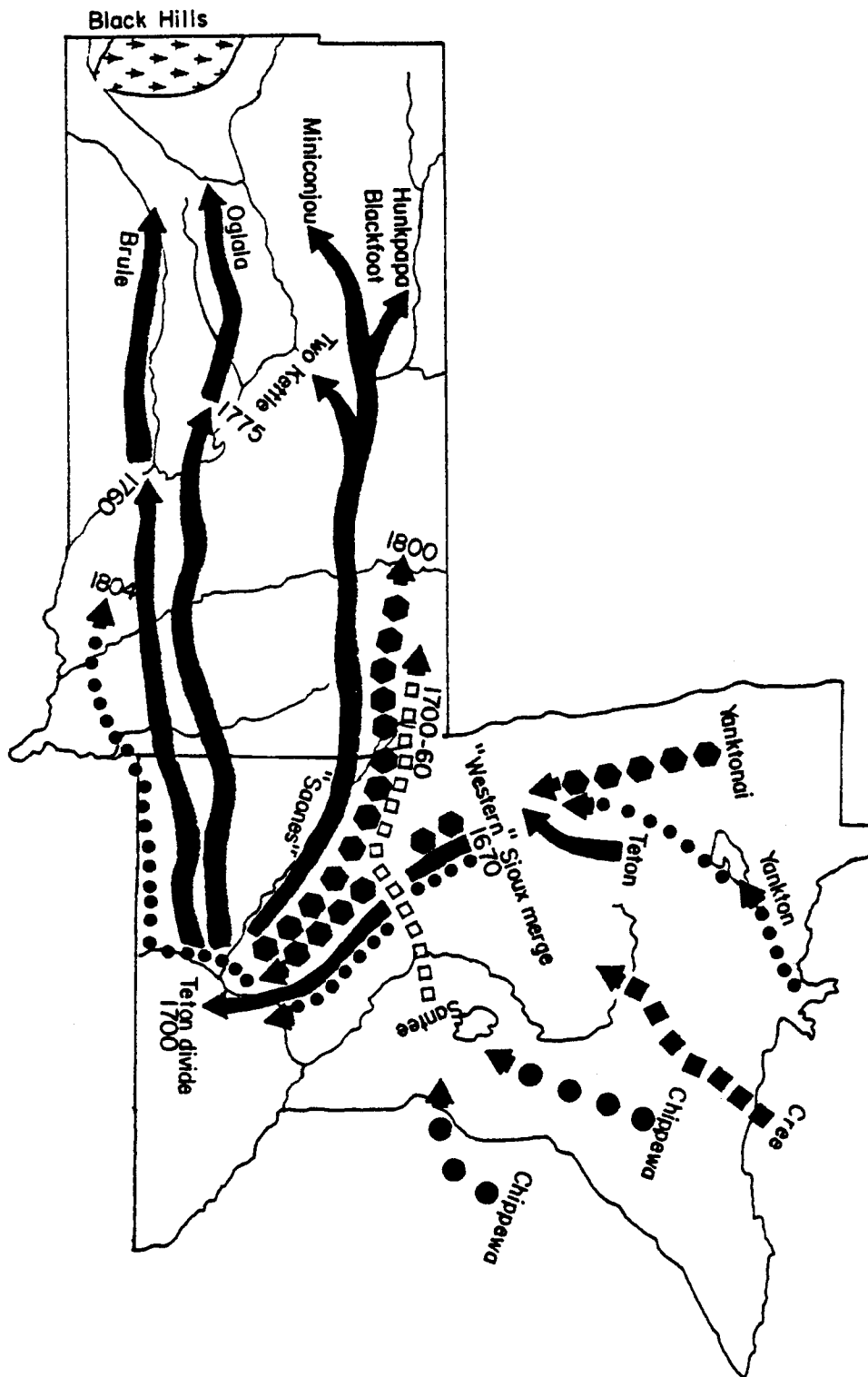


Fig. 6-6: Sioux migrations from Minnesota to South Dakota (modified from Froiland 1978).

TABLE 6-3

The Original Seven Council Fires of the Sioux Nation

Sioux Band of the East (Santee)

1. Wahpeton
 2. Sisseton
 3. Mdewakantonwan
 4. Wahpekute
- } Dakota
dialect

Sioux Band of the West (Dakota)

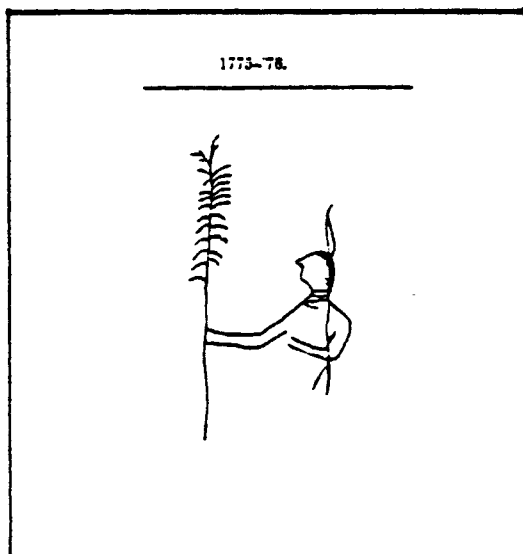
1. Yanktonai
 2. Yankton
 3. Teton
- } Nakota dialect
— Lakota dialect

Teton Sub-Bands

- a. Oglala
b. Brule (burnt thighs)
c. Miniconjou
d. Two Kettle
e. Sans Arc (without bows)
f. Hunkpapa
- "Saones"
(Shooters among the Trees)
- }

Figure 6-7

Corbusier (American Horse) winter count of Standing Bull returning from first Sioux entrance into Black Hills in 1775-76. Standing Bull is holding a ponderosa pine bough (Mallery 1886:130-31).



Warren recounts that their migration "to the southwest have pushed the Sheyennes (with whom they are on friendly terms) in advance ..." (Warren 1856:16-17). He also mentions that in spite of smallpox, the Tetons are increasing in numbers rather than diminishing, "except where they mingle with the settlements on the frontier" (Warren 1856:16-17).

With the increase in Euro-American contact in western Nebraska and South Dakota, the days of the open Indian lands were about to close. What came in its stead was a time of conflict and deprivation. Essentially, the cultural evolution that had begun over 11,000 years earlier was about to undergo an abrupt directional shift.

7 Modern Native Americans and the Black Hills

EARLY DOCUMENTED USE

The Black Hills have been known to the Lakota since at least 1775-76 (Mallery 1886), and they eventually took possession of the region, with the departure of the Kiowa and the Cheyenne (Hyde 1937). There is little question that they found the Hills to be a valued source for food and other items. Hassrick (1964:79, 189) indicates they called the Black Hills their "meat pack". Black Elk, an Oglala, was recorded as going to the Black Hills in the spring of 1873 with his band (30 tipis), where they progressed along the east side of the Hills, camping on creeks, fishing, hunting deer and cutting lodge poles (Neihardt 1972:53-54). Custer's expedition came upon a small band hunting on Reynold's Prairie near Deerfield in 1874, and saw evidences of past camps, trails and other aboriginal activities (Jackson 1972:77-80). There may be some question about how much they used the Hills, and how many there were there, but certainly not their presence.

THE BLACK HILLS AS A SACRED LOCALE

There is little or no disagreement among scholars about the sacred nature of certain topographic features along the outer edge of the Black Hills.

When Warren's expedition entered the region in 1857 (Warren 1875:18), he noted the name Inyan Kara Mountain (the peak which makes the mountain) on the west flank of the Hills. Although the Indians they encountered are not recorded as having indicated anything sacred about the vicinity, the name Inyan is their stone god, the oldest of Lakota dieties (Dorsey 1894:447; Powers 1975:54), a suggestion of something mystic or supernatural attributed to this mountain pre-1857.

Devil's Tower, the impressive volcanic plug located north of Sundance, Wyoming, figures in a number of Indian tales. The Kiowa called it Tso-aa, Tree Rock. Their story for it involved seven "star girls". At one time, seven little girls from a Kiowa village were playing away from their homes and were chased by bears. They were about to be caught when they reached a rock about three feet high. The seven jumped upon the rock and one prayed to it "Rock, take pity upon us. Rock save us". The rock responded by growing upward, taking the children out of the reach of the bears. The bears continued to jump at the girls, clawing long grooves in the sides of the rock. The girls were pushed up into the sky, where they now love [the Pleiades] (Crook County Historical Society 1981: 4).

The Cheyenne and Sioux accounts differ from the Kiowa. There once were seven brothers. The wife of the most senior, while adjusting the smoke wings on her tipi, was carried off to a cave by a big bear. The husband missed her greatly, and vowed to defiantly cry at this bear. The youngest brother, being a medicine man, instructed the eldest to construct a bow and four blunt arrows. Two of the arrows had to be painted red and set with eagle feathers. The other two had to have buzzard feathers and painted black. When these were made, the youngest brother took the bow and arrows, had the other brothers get their bows and arrow-filled quivers, and they all departed for the big bear's cave. When they reached the den, the youngest brother had his brothers sit down and wait. While they sat there, he changed into a gopher and burrowed into the cave. Inside he found the bear lying with its head in the woman's lap. He put the bear to sleep, changed back to an Indian, and took the woman back outside. They all hurried away, but when the bear awoke, it found their trail and followed them, accompanied by eleven bears that he led. When the brothers and the wife reached the present location of Devil's Tower, they realized they were being chased. The youngest brother always carried a little rock in his hand, and he had the others close their eyes while he sang a song. After singing it four times, it had grown to its present height as Devil's Tower. The bears reached the rock, and the big bear called up, "Let my wife come down." The young brother mocked him back. Then all of the bears were killed, except for the leader, who possessed strong medicine himself. Jumping up at the Indians, he clawed the side of the tower. Each jump brought him closer. The buzzard feather arrows had no effect. The first red arrow did not stick, but the last one went in his head and killed him. Eagles came and rescued the Indians from the summit, and they burned the bear leader to ashes. (Crook County Historical Society 1981:4-5).

Unquestionably the best documented sacred site along the edge of the Hills is Bear Butte, just north of Fort Meade. Much has been written about the Cheyenne and their religious ties to this volcanic extrusion. It was here at the Holy Mountain (Noahá-vose) that a Cheyenne prophet named Sweet Medicine met Ma'heo'o, the All-Father Creator. It was here in a "beautiful lodge" (cave) in the mountain that Sweet Medicine was given the four Sacred Arrows for the Cheyenne, along with instructions concerning the holy code of laws to govern them. Since that time (perhaps ca. A.D. 1696) Noahá-vose (Bear Butte) has remained the holiest place in the Cheyenne world (Powell 1969, 1980; Stands in Timber and Liberty 1967).

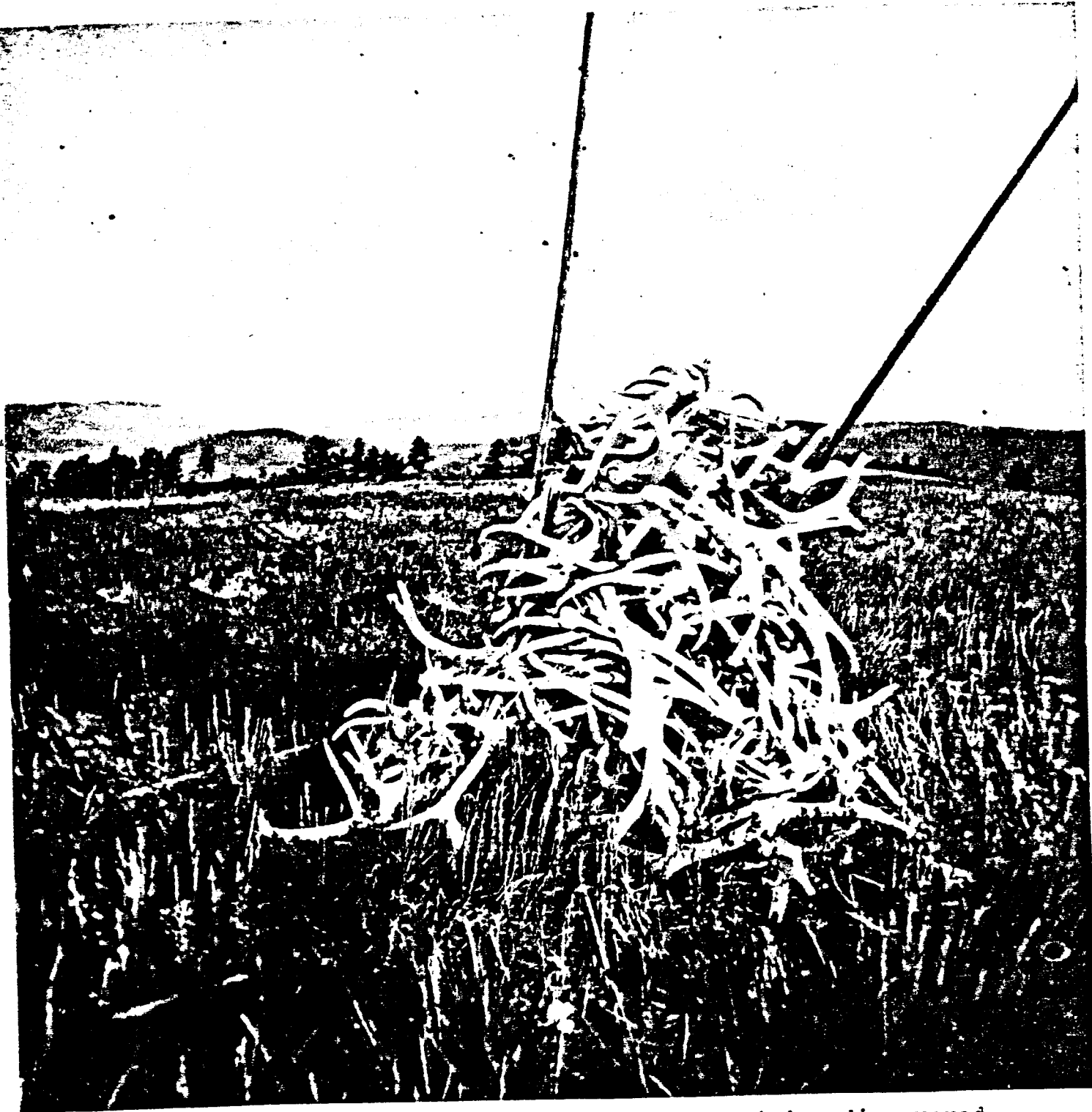


Fig. 7-1: A pile of elk antlers in Reynolds Prairie, discovered by the Custer expedition. Such an arrangement of antlers and what appears to be poles (spears?) could be interpreted as ceremonial in nature (1874 photo by Illingworth - in: Progulsk 1974).

Bear Butte is also regarded as a sacred location by the Lakota. One account describes them placing rocks in trees there (the rocks representing the dead), and then weeping (Dorsey 1894:449-50).

According to Sioux tradition, they received their sacred Calf Pipe from White Buffalo Calf Woman (Powers 1975:81-83), and it remains a central part of their religion to the present. The pipe bundle has remained in the possession of a Sans Arc lineage on the Cheyenne River Sioux Reservation (Thomas 1941). One account, given by the Keeper of the Pipe, Orval Looking Horse, has the Calf Pipe coming from the same cave as did the Cheyenne Sacred Arrows. Looking Horse indicated the cave was at Devil's Tower, but if consistent with Cheyenne oral tradition, it would be Bear Butte (Mails 1979:254-55). No other account describes the location for the source of the Calf Pipe. However, in an interview with Russell Means on 20 March 1984, I was told that the Calf Pipe came from the Black Hills, although no specific location was disclosed.

On 20-21 March, I went to Pine Ridge Reservation, S.D. and to Gordon, NE. I met with a number of Lakota elders, medicine men and other traditionals for the purpose of documenting specific sacred localities within the Black Hills, in accordance with the Native American Religious Freedom Act. Those interviewed at Kyle, S.D. included Matthew King, Vernal Cross and Eli Tail. Russell Means was interviewed in Porcupine, S.D., and Roger Byrd in Gordon, NE.

On the whole, there was a reluctance to identify specific locations within the Black Hills. The consensus among them was that the entire Hills were sacred.

Specifically, Matthew King indicated several sacred areas: the "picture writing" in the southern Black Hills (e.g. Craven and Red Canyons) where King says prophesies are depicted on the walls; a spring near Sylvan Lake, into which a person can look and find out when they will die; and Bear Butte, a revered vision quest and sweat lodge location.

Russell Means, beyond saying that the Black Hills was the source of the Calf Pipe, also stressed that the Lakota originated in the Hills, then migrated south to the Gulf Coast, then northeast to live with the Creeks, and then northwest, spending time in Minnesota before returning to Dakota and the Black Hills, a full circle. Means also indicated that Yellow Thunder Camp was extremely sacred to him. Yellow Thunder Camp will be discussed later in this chapter.



Fig. 7-2: The framework of a sweatlodge, along with a pit for heating rocks and a pile of wood fuel in one of the small valleys on the south flank of Bear Butte. These sweatlodges are reused by a number of individuals who come to Bear Butte for ceremonials (S. Cassells photo, 1982).

Taking another perspective on the sacred nature of the Black Hills are two Anglo scholars, James Hanson (Museum of the Fur Trade in Chadron, NE) and Watson Parker (University of Wisconsin, Oskosh). Hanson served as a witness for the U.S. Forest Service during a portion of the current legal proceedings between the American Indian Movement and the Forest Service over the Lakota occupation at Yellow Thunder Camp. I interviewed Hanson on 5 June 1984, gaining a recap of his position. Parker is regarded as an able Black Hills historian, having produced a number of books and papers on the region. Parker's input here will be limited to a paper he presented at the 16th Annual Dakota History Conference in April of 1984 (Parker 1984).

Hanson does not feel the Lakota have regarded the Black Hills as sacred for very long. His evidence includes the observation that none of the current or historic ceremonies involve the Black Hills as part of the tradition, suggesting that the Hills were not sacred at the time the ceremonies were being developed or assimilated. For example, the Hunka ritual (the making of relations), originating ca. 1805, is the

last ceremonial to be organized, and is not related to the Black Hills (Powers 1975). Hanson also cites Colonel Richard Dodge (1876), who felt that no Indian group ever made the Black Hills a permanent home, based on a lack of evidence for camps in the Hills during the 1870's. Dodge had an informant, Robe Raiser, who was fifty years old and had been around the Black Hills most of his life, but had never ventured inside. His testimony was that although some went in there to hunt a little or to cut lodge poles, it was only for brief periods. The brevity of Black Hills visitations was based, according to Robe Raiser, on the fact that the Hills were regarded as "bad medicine" and the home of spirits. After describing other negative aspects of the Hills (scarce game, very thick timber, too many flies, too much rain, and frequent lightning and thunder) Robe Raiser said that they (the Indians) would have given or sold the Black Hills to the whites long ago, except that "squaw men" around the reservation told them to make a "big fuss" and they would be sure to get a "big price" for the Hills (Dodge 1876:137-38). Dodge then said that this was confirmed by "every Indian communicated with ...". A roughly similar statement was made by Dodge later (Dodge 1883:604). Hanson's evidence also includes the writings of another early Anglo in the region, Edwin Thompson Denig. Denig indicated the Indians held "much superstition" about the Black Hills. Smoke and rumblings were thought to have come from the "Great White Giant" who was the first aggressor in the territory, and was being pressed in upon by rocks as punishment, and as an example to the Whites not to intrude on the Indian hunting grounds (Denig 1961:6).

Hanson speculates that the Black Hills were sacred to the Arikara, and that when reporters of Custer's 1874 expedition sent dispatches back from Fort Abraham Lincoln, the newspaper articles were flavored with the views of Custer's Arikara scouts. He also has speculated that a good deal of the "sacred Hills" legend may have come from early Twentieth Century tourist promotion of the area (James Hanson, personal communication).

Watson Parker has produced a controversial paper on the Black Hills land claims that seems to, at least in tenor, coincide with Hanson's views (Parker 1984). With their entrance into the Hills ca. 1775-76, Parker does not think they had sufficient time to have worked the area into their cosmology, especially given the fact that they were spending most of their time fighting the Kiowa and Cheyenne for the region. Parker agrees with Hanson regarding the Robe Raiser account (Dodge 1876:137-38), the Denig account (Denig 1961:6), and the recent Black Hills publicists promoting the region. Parker also cites the Black Elk account (Neihardt 1932:43) as a contributor to the sacred Black Hills concept.

YELLOW THUNDER CAMP

One subject interwoven with both the issues of the sacred nature of the Black Hills and the land claims controversy is Yellow Thunder Camp.

On 4 April 1981, a caravan of Indians left Porcupine, S.D. (Pine Ridge Reservation) and drove to the Victoria Lake area, a U.S. Forest Service facility located west of Rapid City. They set up tipis in the deep valley alongside Victoria Lake, an intentionally much reduced body of water from its pre-1972 flood level.



Fig. 7-3: Looking south from the ridge into the valley, two tipis of the Yellow Thunder Camp can be seen. Note the plastic bag ring to their left, the remnant of another tipi. The plastic had been stuffed with pine needles and used to seal the bottom of the structure during cold weather (1982 photo, S. Cassells).

The purpose of the camp was to use its establishment as an initial step toward reclaiming and settling the Black Hills (Oyate Wicaho 1981:3). Shortly thereafter, as part of that effort, Matthew King filed a claim for 800 acres of U.S. Forest Service land in the vicinity of Victoria Lake, with the ultimate hope to regain all the Public Lands administered as the Black Hills National Forest.

The camp was named Yellow Thunder, after an Oglala, Raymond Yellow Thunder, who in 1972 had been beaten, publically humiliated, tortured and eventually killed in Gordon, Nebraska by some local Anglos. The Sioux now call Lake Victoria Lake Buddy Lamont, for an Oglala killed during the siege at Wounded Knee in 1973 (ibid).

The camp has included a number of tipis, a large cook-house, a sweat lodge and gardens. A large geodesic dome structure was burned down. The tipis have been equipped with wood-burning stoves for the winters. Large plastic sheets and garbage bags were stuffed with pine needles and then packed in along the inner edge of the tipis to seal out the cold air. At the time of the cultural resource survey of the Yellow Thunder Camp (Cassells 1982), a number of garbage bag/plastic sheet circles marked the locations of previous standing tipis, an interesting variation on stone circle remnants at prehistoric camps.

As stated earlier, Russell Means indicated Yellow Thunder Camp to be sacred ground, an important part of the Lakota world. Whether or not the time depth for such a feeling goes much earlier than 1981, numerous ceremonies and other events have begun to reinforce the Victoria Lake vicinity as a place of special import to the Lakota and other participating groups.

In conjunction with the current efforts of the Lakota and supporting groups to reclaim the Black Hills, a National Register of Historic Places nomination of the 800 acres of the Yellow Thunder Camp was prepared by Dr. Larry Zimmerman of the University of South Dakota. According to Dr. Zimmerman, this nomination was given support by at least 50% of the Council of South Dakota Archaeologists. However, during the 21 May 1984 meeting of the Council, a number of members questioned the adequacy of the polling procedures. Unquestioned support was gained from the National Congress of American Indians (Horse 1982) and the American Anthropological Association (American Anthropological Association 1983). The 1982 cultural resource survey of the camp did locate two prehistoric sites that were considered potentially eligible for the Register, but no consideration was given to any district at that time (Cassells 1982).

Controversy over the nomination of Yellow Thunder Camp to the National Register continues to this day. The draft nomination was at least temporarily withdrawn from submission on 28 January 1983. At that time, in a meeting attended by a number of South Dakota professionals and Jan Hammil (Director of American Indians Against Desecration), a consensus was reached to instead pursue a Multiple Resource Nomination for the area. This would include Yellow Thunder, but also extend beyond its boundaries to other Forest Service properties (Hammil 1983). As interpreted by the South Dakota State Historic Preservation Officer, with a Multiple Resource Nomination to be undertaken,

"... the Yellow Thunder Camp, as an archaeological site or sites, would be considered and significance determined as part of the Multiple Resource Nomination process."

and

"That until significance of eligibility is determined, all archaeological sites would be considered part of the Multiple Resource Nomination process and protected as such" (Fishburne 1983).

It is recognized that the State Historic Preservation Officer is not in a position of authority over the United States Forest Service, but in the process of carrying out the mandates of the National Historic Preservation Act of 1966, is involved in the entire National Register process, and can comment on the eligibility of properties in the state. Thus, his opinions on Yellow Thunder and the consideration of Yellow Thunder as significant until determined otherwise is interesting, as well as potentially important.

In addition to the support given to a nomination of the Yellow Thunder Camp, advocates were found in the U.S. Congress for the Special Use Application filed by the Camp for the construction of buildings and use of the area, as evidenced by a letter to the Chief of the U.S. Forest Service in Washington that was signed by 38 members of Congress (Oyate Wicaho 1981:18).

At the time of this writing, there has been no resolution in the dispute between the Native Americans and the federal government over Yellow Thunder Camp. A court case has been initiated, a great deal of testimony already given, and at present, the parties stand at an impasse. Suffice it to say that the dispute will continue for some time.

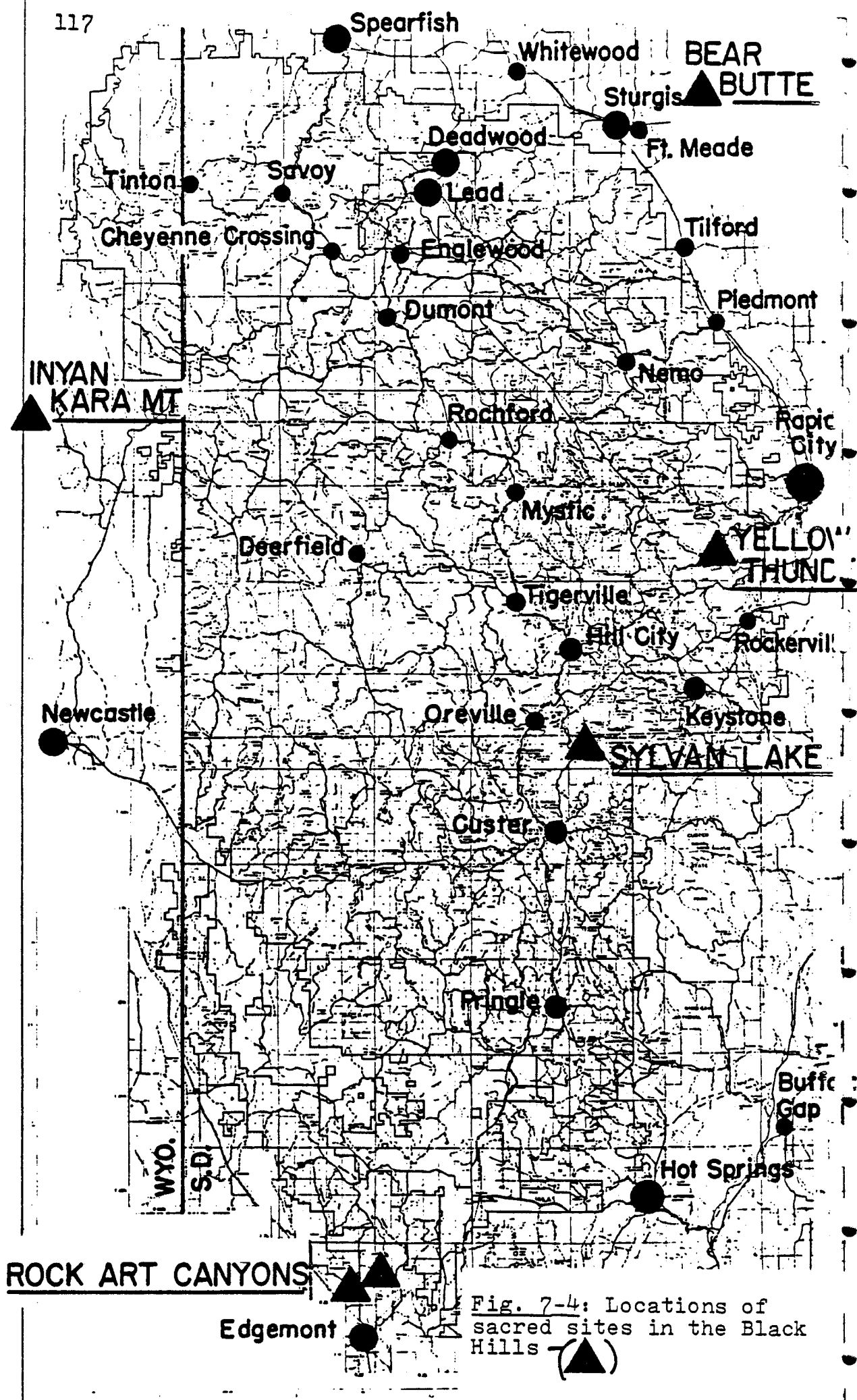


Fig. 7-4: Locations of sacred sites in the Black Hills

SUMMARY

As can be seen, some controversy exists over the extent to which the Black Hills can be regarded as sacred by the most recent aboriginal residents, the Lakota or Sioux. There is no doubt that many traditional Lakota view it today as a very special and/or sacred locale, with emphasis more on it in totality than on individual locations within it. Historic documentation is somewhat contradictory. The testimony of Robe Raiser, while suggesting the value of the Black Hills was artificially elevated as a means of gaining a better price, also indicated it was the abode of spirits and "bad medicine". Although this indicates a certain malevolence rather than benevolence there, the mysticism of the region was admitted. Reports from military expeditions such as those of Dodge and Warren should not be interpreted as the final word on local cultural anthropology. These military officers and their contingents came to the area for other than ethnographic purposes, and though their subsequent publications still hold a great deal of value to historians, the fact that they did not mention certain Indian feelings about an area does not mean the Indians did not have them. On the other hand, the fact that the Black Hills is not part of any Lakota ceremonials does merit consideration, perhaps suggesting a certain recency to Lakota presence and importance of the Black Hills.

There should be no controversy over the sacred nature of Bear Butte, now a state park with special privileges granted to Native American peoples. Other locations within the Black Hills, or the Hills in their entirety, are open to interpretation in regard to being sacred to American Indians and the Lakota in particular. Further ethnographic documentation, if discovered, may shed light on the subject.

Yellow Thunder Camp differs somewhat from the other sites in question. Whether or not it is sacred is not on the current court agenda. In the court case, only the granting of a Special Use Permit will be considered. The sacred nature and a possible National Register nomination are separate issues. If "historic" or "sacred" sites need to be tied to the past (e.g. 50 years or more ago), then Yellow Thunder would not seem to qualify at present, although decades from now it might. If time depth is not critical, then it might possess the proper criteria now.

8 Management Recommendations: Sacred Sites

Sites falling under the heading of sacred or traditional for ethnohistoric or modern Native American groups are limited in the Black Hills both in number and in locational data. As indicated in Chapter 7, those Traditionals interviewed indicated only a few specific locations: Bear Butte; southern Hills rock art canyons; a spring in the vicinity of Sylvan Lake; Yellow Thunder Camp. In addition, Inyan Kara Mountain appears to have been important at least during earlier years (pre-1857). The most consistent mention of sacred locations by the Traditionals at Pine Ridge were the Black Hills as a whole.

Bear Butte is a state property, and is currently being managed as a sacred area, with special privileges accorded to Native American visitors.

The spring near Sylvan Lake was not actually located, and as such, land ownership cannot be determined. That vicinity is primarily state land, but there is a chance the spring is on the Black Hills National Forest. However, with no locational data, no management policy for it can be formulated.

Inyan Kara Mountain, located on the western edge of the Hills in Wyoming, is part of the Black Hills National Forest. Its significance as sacred ground rests in the past. No mention of it was made during recent interviews with the Pine Ridge Traditionals. No references were located that would indicate ceremonials being held there during the Twentieth Century. However, being the Rock Maker, a Lakota diety, it can be considered part of the Lakota heritage. It is recommended that no mineral exploration/mining, or other development be allowed on the mountain without consultation with the Lakota.

The southern Black Hills rock art canyons were identified as containing prophetic communication from earlier Native Americans. Whether or not ceremonials have taken place there in recent times is not known. The management of these sites appears to be of a positive nature. Those rock art sites on Forest Service land have been included within a National Register District nomination, along with a number of those from adjacent private lands. So long as they are protected under the National Register, and access to Native Americans remains adequate, it would not seem necessary to modify current Forest Service management policy there.

Yellow Thunder Camp appears to be sacred to the Lakota today, although this is likely of recent origin. As discussed in Chapter 7, recency should not necessarily be an issue. With the statements of the SHPO that Yellow Thunder Camp be considered eligible to the National Register until final determination is made following a nomination, it would seem that Yellow Thunder could logically be treated as a potential National Register property until final evaluation is complete.

Based on personal experience at Yellow Thunder Camp during the cultural resource survey there (Cassells 1982), the two potentially eligible prehistoric sites would not, by themselves, constitute a legitimate basis for a National Register District. The present occupation of the valley would not seem to qualify to the Register, on the basis of not yet being historic (i.e. 50 years old). However, as a sacred site, it would appear to fall under the Native American Religious Freedom Act, and accorded the rights and protection afforded by that legislation. To qualify as part of a National Register District, or within a Multiple Resource Nomination, a special exception might be necessary.

The final subject is the Black Hills as a whole. The matter of the Black Hills either being sacred or not sacred to Native Americans was discussed in Chapter 7, and there are several points of contradiction between various sources in the literature, the Traditionals at Pine Ridge Indian Reservation, and at least two historians. It has not been my purpose to decide which side is more right. The reader may review the evidence and judge it personally. Ultimately, it may be the courts that decide the issue.

Should the entire Black Hills, to include the Black Hills National Forest, be firmly judged to be sacred, management problems could be considerable, involving future development of the region. It would be a difficult task to formulate management recommendations for the entire Black Hills, and it seems premature at this time to do it.

9 History: A General Overview

EARLY EXPLORATION

The historic period in the Black Hills may have begun with the Verendrye expedition of 1742-43. Members of a French-Canadian fur trading family, the Verendryes and two other French-Canadian travelling companions were sent to search for the "Western Sea". This was believed to lie beyond the Mandan Indian villages, located along the Missouri River near the mouth of the Knife River in present North Dakota. The senior Verendrye, Pierre Gaultier de la Verendrye, had received a monopoly of the fur trade in the region west of Lake Superior in 1726. In return, he was expected to explore and claim the land westward to the sea for France. By 1738 Verendrye had established Fort La Reine on the present site of Portage La Prairie, Manitoba. Information coming from Indians trading at Fort La Reine suggested that an expedition from the fort might be able to reach the Western Sea in a single season (Crouse 1956; Smith 1980).

Verendrye's original plan was to attempt the expedition from Fort La Reine in the summer of 1741. A lead plate, seven by eight inches in size, was cast to establish the French claim. Verendrye intended to bury the plate at a prominent point on the western coast.

The inscription stated:

In the 26th year of the most
illustrious monarch, Louis
XV, the Lord Marquis of
Beauharnois being viceroy,
1741, Pierre Gaultier de la
Verendrye placed this.

Business difficulties delayed the senior Verendrye in the fall of 1741 and, when the spring of 1742 came, he was in poor health. His two sons, Francois (called the chevalier), and Louis-Joseph, along with Louis la Londette and A. Miotte, made the journey for him. They began their expedition 29 April 1742.

The exact route taken by the Verendryes in their travels will probably never be known. A journal was kept, but it did not contain daily entries, made no effort to provide detailed descriptions of geographical features traversed and only occasionally estimated distances travelled.

The first leg of the journey took the Verendryes to the Mandan villages on the Missouri. They reached there 19 May. At this point, the Verendryes hoped to contact the Horse Indians, who were reputed to know of a large body of water

to the west. After waiting until 23 July, the Verendryes persuaded two Mandans to guide them to the land of the Horse Indians, who had failed to appear as they usually did in early summer.

From this point until March 1743, evidence presently available does not allow positive location of the expedition's route. On 9 August they reached a place described as the Mountain of the Horse People. The general direction on the march to the mountain was southwest. After waiting until 14 September, they contacted a village of Indians described as the Handsome Men (Beaux Hommes). A succession of contacts made in further travel took the expedition to various groups of Indians: The Little Foxes (11 October); The Pioya (15 October); and finally the Horse Indians (19 October).

The Horse Indians were distressed by losses they had suffered at the hands of the Gens des Serpent. Seventeen villages had been destroyed by these "Snakes". After questioning, the Horse Indians admitted that they had never been to the Western Sea, since it would be necessary to cross Snake territory to reach it. The Horse Indians suggested that the expedition contact the Bows, the only Indians brave enough to challenge the Snake.

A march to the south and west, ending 18 November, took the expedition to the Belle Riviere (perhaps the Cheyenne River in South Dakota) and the land of the Bows. The Bows were preparing to make war on the Snake at the side of the great mountains, and from there the expedition was promised that it would be able to find the sea. December 1742 was spent preparing for war with the Snake and marching toward their land. The route of the march was described as sometimes south-southwest, and sometimes northwest.

On New Year's Day 1743 the party sighted mountains in the distance. They continued toward the mountains until 8 January. The next day the baggage and village were left behind and a war party continued toward the mountains. The chevalier continued with the war party and Louis-Joseph was behind to guard the baggage at the village. After a march of twelve days, the party reached the base of the mountains (21 January 1743). They were described as mostly well-wooded with all kinds of timber, and they appeared very high. On this basis, it has been suggested by scholars that Francois Verendrye was the first non-Indian to stand at the foot of the Black Hills.

This evidence, along with the discovery of the Verendrye lead plate at Fort Pierre (discussed below), have been used to support the contention that the expedition reached the Black Hills.

The lack of precise geographical evidence casts some doubt on this claim. The party with whom the Verendryes were travelling had the mountains in sight for twenty-one days before reaching them. After leaving the village behind, most of the column travelled on horseback (marching in good order, according to Verendrye) for twelve more days. Allowing an average of only ten miles per day, the party could have covered 200 miles. At no point are the Black Hills visible from the ground for more than 120 miles. The mountains in sight seem to have been much larger than the Black Hills.

The chevalier was unable to climb or explore the mountains he had found. The Bows became convinced that the Snakes were attacking the village left behind, and they began a rapid retreat to defend it. After becoming separated from the main party of Bows for several days, and then finding the village, the Verendryes abandoned plans to reach the sea and prepared for a return to Fort La Reine. On 15 March 1743 they joined the Gens de la Petite Cerise (People of the Little Cherry), two days march from their village near the mouth of the Bad River on the Missouri. The lead plate mentioned above was buried on a hillside near the village 30 March 1743, with the following inscription added with a sharp instrument to the reverse side:

Placed by the Chevalier de la
Verendrye, Louis Joseph, Louis
la Londette, A. Miotte, March
30, 1743.

After waiting for a Frenchman reported living three days travel from the village, the party returned to Fort La Reine via the Mandan villages. They reached the fort on 2 July 1743.

The Verendryes were uneasy about revealing the nature of the lead plate to Indian people living in the area. They placed the plate under a stone pyramid and told the Indians that the stones were a memorial to those who had come to their country.

Here the plate rested for over 150 years. The stones were eventually scattered, and the site was unknown to the early residents of the town of Fort Pierre at the bottom of the hill. On 16 February 1913, Fort Pierre high school students George O'Reilly and Harriet Foster found it, and the plate became the property of the South Dakota Historical Society (Robinson 1925:748-59).

LEWIS AND CLARK

The Meriwether Lewis - William Clark expedition from St. Louis to the mouth of the Columbia River (1804-06) had no direct contact with the Black Hills. However, Lewis and Clark did record a meeting with a fur trader named Jean Valle on 1 October 1804, near the mouth of the Cheyenne River. Valle had built a trading post and had three Frenchmen with him. Valle claimed to have spent the preceeding winter 300 leagues up the Cheyenne River under the Black Mountains. He stated that the headwaters of the Cheyenne were occupied mainly by the Cheyenne Indians. Lewis and Clark reported that Valle described the Black Hills as being very high, covered with great quantities of pine trees, and in some parts, covered with snow in the summer. Also reported were many goats, white bear, prairie cocks and animals which resembled small elk with large circular horns. Valle's story of strange loud noises began a mystery which continues to puzzle students of the Black Hills (De Voto 1969).

EARLY WYOMING APPROACHES TO THE BLACK HILLS

Wyoming resources indicating non-Indian influence in the Black Hills region begin with a blade found northeast of the Big Horn Mountains along the Tongue River at Dayton, Wyoming in 1961. The blade may have been part of a Spanish rapier manufactured during the 17th Century. The site provided no indication of how the blade got to northern Wyoming (Larson 1978:8).

Employed by the Northwest Fur Company, Antoine Larocque explored the valley of the Yellowstone as far upstream as the Big Horn River, and circled east to the Powder River before returning north and east to the Mandan villages in 1805. Larocque's journal (Hazlitt 1933-34) does not mention the Black Hills, although he probably passed within 150 miles of them.

THE ASTORIANS

The expansion plans of John Jacob Astor's American Fur Company indirectly influenced the Black Hills. To tap the fur trading potential of the Pacific Northwest, Astor created a subsidiary, the Pacific Fur Company. He then dispatched a party of 63 men with three boats, who were to go up the Missouri River, cross into the Columbia drainage and build a fur post at the mouth of the Columbia. Led by Wilson P. Hunt, the "Astorians" ascended the Missouri in the spring of 1811 and entered the section of the river now in South Dakota on about 16 May. Accompanying the Astorians were English naturalist John Bradbury and English botanist Thomas Nuttall. The journals of these two scholars contain some of the earliest scientific observations of the upper Missouri River region.

The Astorians were eager to reach Indian villages on the upper Missouri ahead of a trading party led by St. Louis

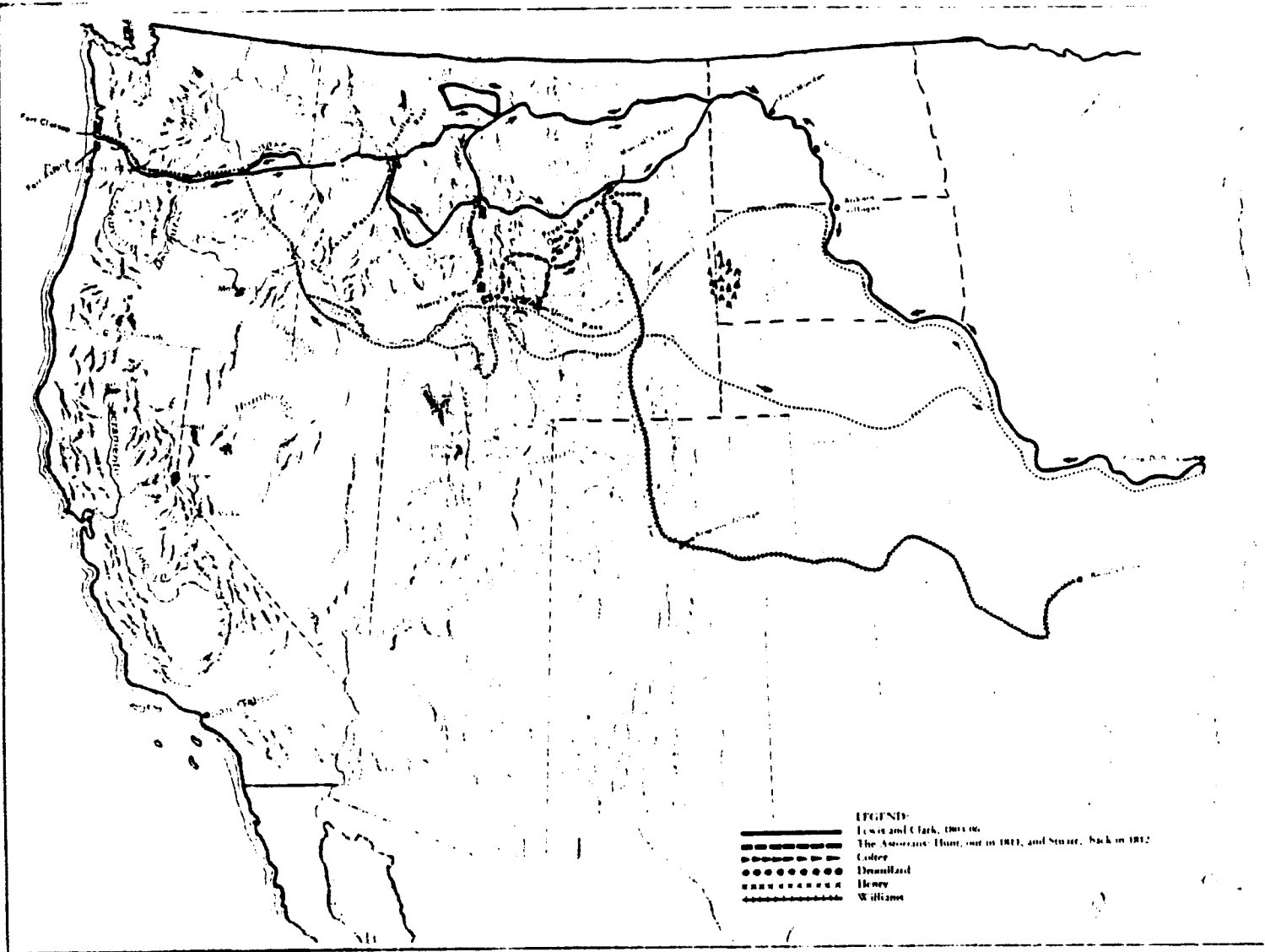


Fig. 9-1: Routes of some
early explorers.
(Goetzmann 1966)

fur trader Manuel Lisa. A veteran trader with Indian contacts on the upper river, Lisa could claim available furs and leave the Astorians empty handed. Although ten days behind at the start of this keelboat race, Lisa was able to catch the Astorians at the mouth of Chapelle Creek, about 25 miles below the present city of Pierre on 3 June 1811. When the two parties reached the Arickara villages above the mouth of the Grand River near the present North Dakota - South Dakota border on 12 June, Hunt decided to leave the river and continue overland to the Columbia basin. The Englishmen continued upriver to the Mandan villages, and then returned to St. Louis.

Hunt and the Astorians remained at the Arickara villages, trading for horses and supplies, until 18 June. Their westward route took them up Wakpala Creek and then southwest to the Grand River on 23 June. There they camped until 6 August with a band of Cheyennes who were hunting buffalo and preparing meat. The western route taken from this Cheyenne camp followed the divide between the South Fork of the Grand and the North Fork of the Moreau past the Slim Buttes in present Harding County of South Dakota and westerly into the Little Missouri and Powder River drainages of Montana. This route placed the expedition within sight of the Black Hills, which were roughly 60 miles to their south. However, the men made no attempt to explore the Hills (Irving 1839).

In his report on the expedition, Hunt offered the following description of the Black Hills:

"... an extensive chain, lying about a hundred miles east of the Rocky Mountains, and stretching in a northeast direction from the south fork of the Nebraska, or Platte River, to the great north bend of the Missouri. The Sierra or ridge of the Black Hills, in fact, forms the dividing line between the waters of the Missouri and those of the Arkansas and the Mississippi, and gives rise to the Cheyenne, the Little Missouri, and several tributary streams of the Yellowstone.

The wild recesses of these hills, like those of the Rocky Mountains, are retreats and lurking places for broken and predatory tribes and it was among them that the remnant of the Cheyenne tribe took refuge, as has been stated, from their conquering enemies, the Sioux.

The Black Hills are chiefly composed of sandstone, and in many places are broken into savage cliffs and precipices, and present the most singular and fantastic forms: sometimes resembling towns and castellated fortresses" (Irving 1839, II:91).

THE FUR TRADE OF THE 1820's

The pattern of trading expeditions by-passing the Black Hills continued during the 1820's. An interesting episode during this time was the encounter of a Black Hills grizzly bear with Jedediah Strong Smith in the fall of 1823. The events which led to this incident were tied to major changes occurring in the upper Missouri fur trade in the 1820's. These changes would have considerable influence on the historical development of the Black Hills.

After a period of confusion and depression following the dislocations of the War of 1812, the upper Missouri fur trade entered its greatest era of prosperity in 1822. An aggressive new firm, the partnership of Major Andrew Henry and General William Ashley of St. Louis, planned to implement a new concept in the trade. Henry, an experienced trader whose participation in the business dated from Manuel Lisa's first expedition to the Yellowstone in 1807, believed that non-Indian trappers working as company employees could provide a more efficient and reliable source of furs. This approach based on sound business and accounting methods should turn a considerable profit.

The Ashley - Henry partnership advertised in St. Louis for "enterprising young men" in the spring of 1822. By that fall, Ashley - Henry brigades of trappers were active on the Yellowstone River and its tributaries. The brigades operated out of temporary posts and used keelboats ascending the Missouri and Yellowstone as a source of supply. Eventually the Ashley - Henry partnership employed many names which later became legendary in the upper Missouri trade and who would touch the history of the Black Hills. Included among these were Jedediah S. Smith, Jim Bridger, Thomas Fitzpatrick, Hugh Glass and James Clyman. During the same period, Astor's American Fur Company expressed an interest in the upper Missouri and the river took on a renewed significance in the fur trade.

Events in the spring of 1823 posed new problems for the upper Missouri trade, and indirectly involved the Black Hills in the events of the developing trade. On his way upriver with keelboats and additional trappers, General Ashley paused at the Arickara villages above the Grand River on 30 May 1823.

Fig. 9-2: Early fur trapper
setting a trap.
(courtesy Robin Farrington)



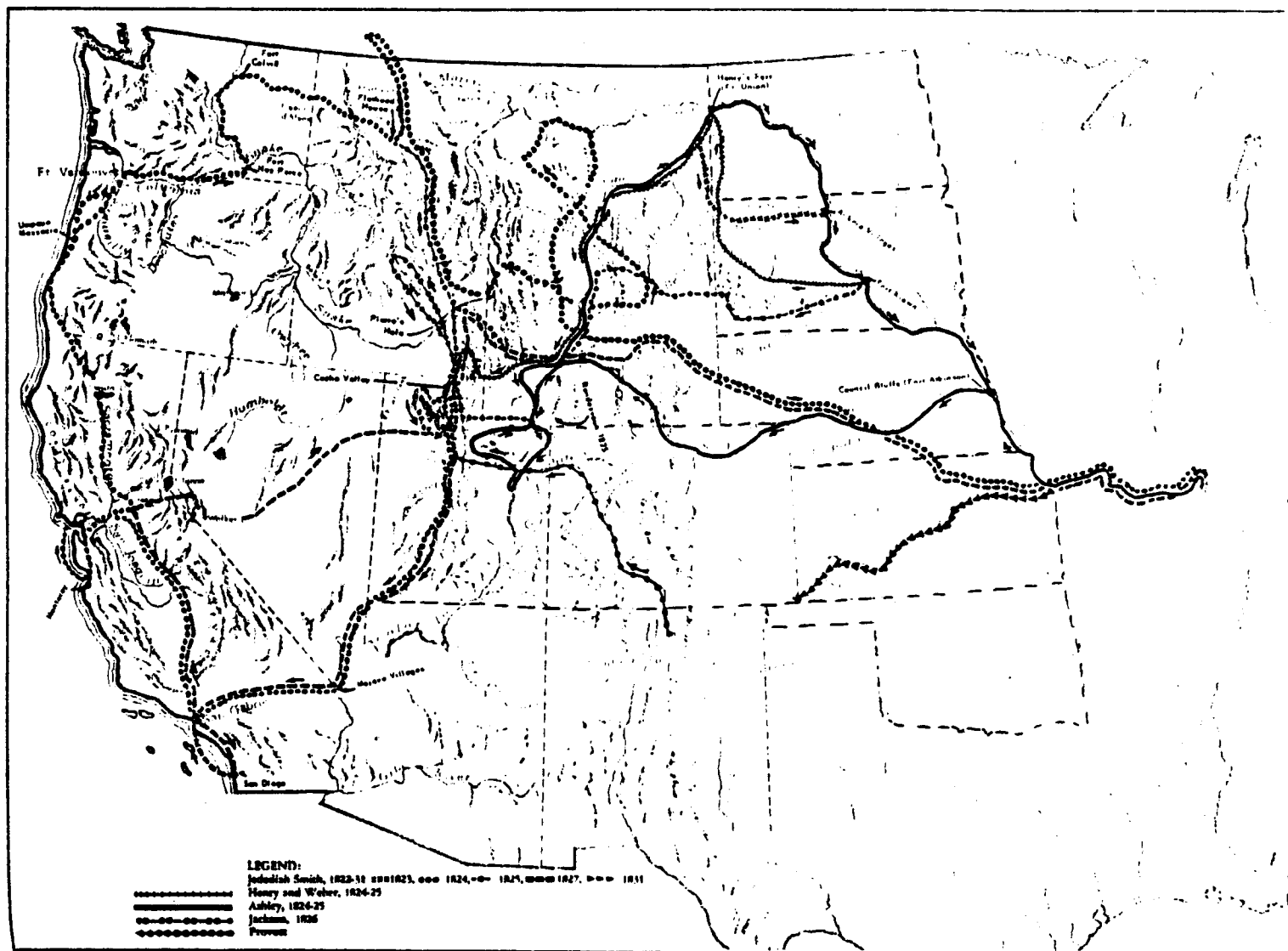


Fig. 9-3: Routes of early fur traders/trappers.
(Goetzmann 1966)

Ashley spent two days trading for horses he planned to use on the Yellowstone. Following an incident on 2 June in the village in which one of Ashley's men was killed, the Arikara staged a dawn attack on the section of Ashley's party who were on the shore with their horses. In the shooting which followed, thirteen of the trappers were killed and ten were wounded. Ashley's party took the keelboats 25 miles below the villages and regrouped. Furious at the attack, and anxious to reach Henry's posts on the Yellowstone, Ashley tried to convince the terrified keelboatmen to make an attempt at running past the villages. They refused. Ashley then asked for volunteers to carry a message to Henry. Jedediah Strong Smith, at the time 23 years old and a new employee on his first trip up the river, agreed to go. Smith used a route along the Grand River similar to that followed earlier by the Astorians, and arrived at Henry's post on the Yellowstone at the mouth of the Big Horn on 10 July 1823. He left the post shortly thereafter, taking a small boat down the Missouri to join Ashley's force below the Arikara villages.

Unable to pass the Arikara villages without assistance, Ashley sent a message down the Missouri to the nearest U.S. military post, Fort Atkinson, near present Council Bluffs, Iowa. Col. Henry Leavenworth organized a combined force of 6th U.S. Infantry, trappers employed by Ashley and by Joshua Pilcher of the Missouri Fur Company. In addition, there was a party of Yankton and Teton Sioux who joined the group. Ashley's trappers were divided into two companies, one commanded by Jedediah Smith, and the other by Hiram Scott, after whom Scottsbluff, Nebraska would be named. On 9 August 1823, the joint force surrounded the lower Arikara village. Following an inconclusive siege, the Arikara escaped during the night of 13 August. Leavenworth was left with no alternative but to declare victory and return to Fort Atkinson. Ashley's keelboats were able to pass up the river, but an entire summer of trade had been lost (Robinson 1925).

To recoup some of these losses, Ashley split his trappers into two brigades. One party, led by Major Henry, set out for the post on the Big Horn, following the route along the Grand River. This party included Hugh Glass, who was by now recovered from wounds he had sustained in June during the Arikara village fight. Employed as a hunter, Glass was mauled by a grizzly in a thicket near the forks of the Grand River (near present Lemmon, S.D.) in late August. Glass's injuries were so severe that he was not expected to live. Two young trappers, Jim Bridger and John Fitzgerald, were offered a bonus to remain with Glass until he died. They would then rejoin the expedition. When Glass remained alone after five days, and several Arikara hunting parties passed their hiding place, Bridger and Fitzgerald abandoned Glass, taking his gun and other valuables. Glass somehow recovered and managed to reach Fort Kiowa, near present

Chamberlain, on the west bank of the Missouri, by mid-October. Although Glass vowed revenge on Bridger and Fitzgerald, he failed to carry out his threat. Glass's ordeal has provided the inspiration for Fredrick Manfred's classic novel, Lord Grizzly, and some highly fictionalized movie and television productions dealing with the fur trade frontier (Neihardt 1915; Manfred 1954; Myers 1963).

A second Ashley - Henry party of twelve men, led by Jedediah Smith, left Fort Kiowa on the last day of September 1823 and followed the White River west to the Black Hills. The party may have crossed the South Fork of the Cheyenne River, up Beaver Creek via Buffalo Gap, and into the open parks of the southern Hills in the vicinity of Wind Cave National Park. Smith's precise route is impossible to determine from the only documentation of the journey. The only original literature from the trek is the somewhat sketchy narrative of expedition member James Clyman, dictated from memory years after the journey. Clyman noted that the expedition camped with several bands of Sioux near the Badlands and almost died of thirst while crossing arid lands east of the Hills. If the party followed traditional Indian and buffalo paths, they would probably have used Buffalo Gap.

When the party reached the edge of the Hills, Clyman recalled that they were very pleased by what they found:

"At length we arrived at
the foot of the Black Hills
which rises in very slight
elevation above the common
plain ... we entered a pleasant
undulating pine Region cool and
refreshing so different from the
hot dusty plains we had been so
long passing over and here we
found hazlenuts and ripe plums
a luxury not expected"(Camp 1928).

Not so pleasing was Smith's encounter with a grizzly. The bear attacked Smith in a narrow gulch filled with thick foliage, and had torn off part of Smith's ear and had his head in its mouth when it was shot by other members of the party. Badly mauled, Smith required ten days to recover sufficiently to be able to travel. During this period, the party explored the surrounding countryside. Clyman recalled that their camp was a day's ride from a place filled with petrified wood. This led to the famous tale of a forest near the Black Hills filled with "putrified" trees on which "putrified" birds sang "putrified" songs. Following Smith's recovery the party continued westward into the Powder River country (Camp 1928).

Fig. 9-4: Jedediah Smith
being attacked by the
grizzly bear in the Black
Hills. (courtesy Robin
Farrington).



ROBERT NOEL
FARRINGTON
1982

Smith's party made no attempt to remain in the Black Hills. Although Clyman's journal is silent on the subject, the limited number of streams flowing out of the Black Hills probably made the area unattractive to organized brigades of trappers who would need to trap sixty beaver or more per man each year in order to turn a profit for the company. Bigger drainages of the Rockies offered much better prospects for organized trapping. For the beaver which the Black Hills and surrounding prairie streams could offer, small fur posts depending on supplies of furs gathered by Indians in the region would be sufficient.

At least one post was established near the Black Hills during this period. Identified in the literature as Oglala Post (possibly because the Oglala were primary source of furs), the post seems to have existed from about 1830 to 1832. Perhaps established by Thomas L. Sarpy of the American Fur Company, the post was located at the mouth of Rapid Creek on the South Fork of the Cheyenne River in what is now Pennington County, South Dakota. Some sources indicate that the post was abandoned following a gunpowder explosion on 30 January 1832, and that the post was never reconstructed. (Chittenden 1935; Hart 1967; American Legion Auxiliary n.d.).

Other posts close enough to draw some trade from the Black Hills were established, but only later in the 1840's, when the trade shifted from beaver to buffalo robes. Veteran Missouri River steamboater and associate of Thomas Sarpay, Captain Joseph La Barge refers to the use of bullboats in the fur trade that was conducted along the rivers in the region surrounding the Black Hills:

The bullboat of the fur traders, in distinction from the tubs which were used by some of the Missouri River tribes, was an outgrowth of the conditions of navigations on such streams as the Platte, Niobrara and Cheyenne. The excessive shallowness of these streams precluded the use of any craft drawing more than nine or ten inches. The bullboat was probably the lightest draft vessel ever constructed for its size, and was admirably fitted for its peculiar use. It was commonly about thirty feet long by twelve wide and twenty inches deep (Chittenden 1962:96-102).

Certainly such craft could have navigated the streams near the Black Hills, especially during spring and early summer. It seems likely that bullboats would have been used to carry the products of established fur posts, but in

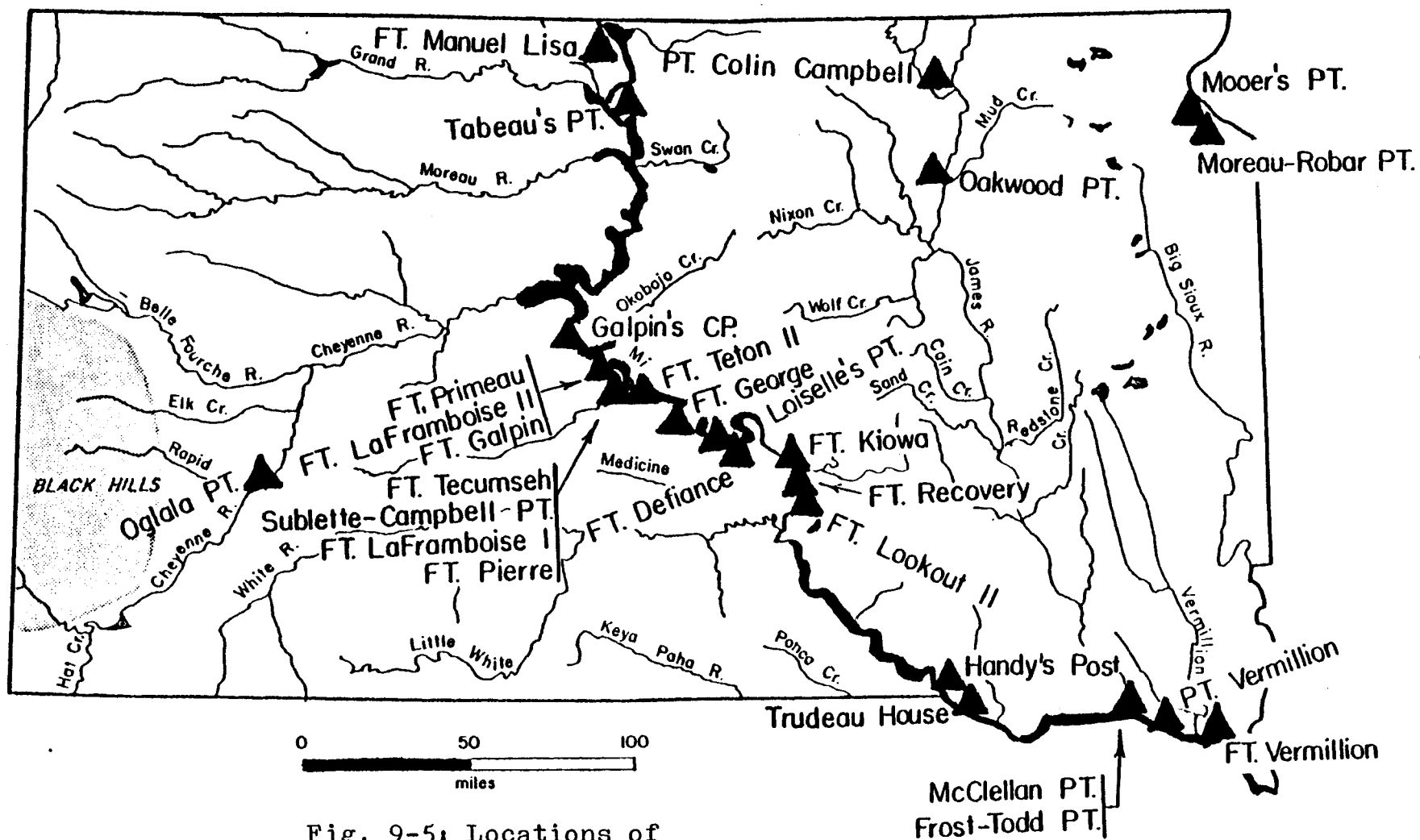


Fig. 9-5: Locations of various fur trade posts in South Dakota.

the era before 1840, the post discussed above is the only one indicated in sources consulted on the fur trade of the Black Hills region.

One fur traders trail of importance did pass by the Black Hills during the later stages of the beaver trade era. Fort Pierre, north of the present town of Fort Pierre, was established by the American Fur Company in 1832. Although there had been two earlier small fur posts in this general area, Fort Pierre was intended as a major distribution point for the American Fur Company's operations on the upper Missouri River. Shortly thereafter, in 1834, the post which would become Fort Laramie (originally named Fort William) was built on the Laramie River in present southeastern Wyoming. During the late 1830's and early 1840's, an overland trail connecting these two posts was travelled by Indians and trappers. Following the divide between the main Cheyenne River and the White River, the trail turned south and paralleled the South Fork at a location several miles south of the present town of Scenic, South Dakota. While never heavily travelled, the trail was used by some trappers and traders operating out of both Forts Pierre and Williams (Laramie). The trail also provided access to Bear Butte, where some contacts between traders and Indians were reported. All things considered, the trails influence on the Black Hills was probably minimal until the time of the 1855 Harney expedition discussed below (Jennewein 1961; Chittenden 1902; Hafen, I 1965; Hafen and Young 1938; Hanson 1965).

DIPLOMATIC ACQUISITION OF TERRITORY INCLUDING THE BLACK HILLS

Territorial status of the Black Hills and surrounding regions began to be established with the placing of the Verendrye plate claiming the region for France in March of 1743. Spanish claims in the area took in all of the region drained by waters flowing into the Gulf of California, which included the Green River drainage in Wyoming. The Columbia drainage, encompassing the Snake River region in western Wyoming, was part of the tangled Oregon question which came to involve Spain, England, Russia, and eventually the United States. While the Black Hills and surrounding region lay entirely within the upper Missouri drainage, and could be considered French, on the basis of the placement of the Verendrye plate, the ambitions of other empires situated nearby left the final destiny of the region in question during the mid-Eighteenth Century.

The Treaty of Paris in 1763 brought the first change in the diplomatic status of the Black Hills and surrounding prairie regions. The convincing military victory won by British and American forces over the French in North America (French and Indian War) brought the transfer of Canada from France to England. In general terms, the territory transferred included the Ohio Valley, the Great Lakes and eastern Canada.

The Mississippi - Missouri River drainage west of the Mississippi was left under French control by the Treaty of Paris. Largely unmapped and unexplored, this region was referred to in vague terms as "Louisiana" (Lewis 1934; De Conde 1976).

France's defeat temporarily ended her ambitions in North America. In 1764 France transferred Louisiana to Spain. During the same year, the city of St. Louis was established by French settlers and fur traders crossing the Mississippi River to escape the coming of British rule to the Illinois country. Named for King Louis XV of France, St. Louis was only nominally Spanish. The culture of the community and leading families such as the Choteaus were French. A small outpost in a vast empire, St. Louis was never to receive resources from the Spanish army or bureaucracy to develop policies for the control of the vast region drained by the Missouri River. Extension of Spanish influence from St. Louis in the 1770's and 1780's was confined largely to activities of traders from the community that operated below Council Bluffs on the Missouri.

While the upper Missouri was nominally Spanish territory, trading activity in the region around the Mandan villages was dominated from the Great Lakes and upper Mississippi River posts west of Prairie du Chien, Wisconsin. The Hudson's Bay Company and newly organized North West Company were English dominated, but they used trade routes and some personnel which had evolved from the days of the Verendryes. By 1791 the English firms were so firmly entrenched that they convinced Indians to turn back Spanish traders, being told that the English supplied all needed trade goods (Whitaker 1934).

Belated Spanish efforts to assert their authority had little impact on the region. Stung by the Indian rebuff in 1791, the Spanish in St. Louis encouraged French traders to organize what became the commercial company for the discovery of the Nations of the upper Missouri. A prize of \$3,000.00 was offered for the first Spanish subject following the Missouri to the Pacific. These incentives produced only limited results. The company sent three expeditions up the Missouri in 1794 and 1795. The only success achieved was by a Scottish turncoat named James MacKay, who had recently become a Spanish subject. He succeeded in reaching the Mandan villages in 1795. Accompanying MacKay was John Evans, a Welshman seeking the "Welsh Indians", believed to be the descendants on legendary Welsh King Arthur, who had sailed west across the Atlantic during the Fourth Century A.D. MacKay and Evans found the region filled with British traders. Proclamations read by Protestants MacKay and Evans ordering the traders out of "His Catholic Majesty's Dominions" failed to impress the well-established traders. Spain, it appeared, was not destined to control the upper Missouri.

Events in the cauldron of European politics soon brought sweeping changes in the status of the upper Missouri and the Black Hills. After a period of disinterest in North America, French policy focused on a new grand design for North America and the West Indies. By 1800, French emperor Napoleon Bonaparte had created a new policy for the development of the island of Santo Domingo. Napoleon saw the island as a new source of sugar and cotton for the French empire which he was building in Europe. Louisiana could play an important role in this development by providing grain, meat and other essential foodstuffs and raw materials to support the slave population on Santo Domingo. The slaves could then concentrate on raising sugar and cotton. Pressure from American expansion into the Ohio and Mississippi Valleys had forced the Spanish to agree to the Treaty of San Lorenzo in 1795, opening the Spanish-controlled port of New Orleans to American trade that was moving down the Mississippi from the rapidly expanding Ohio Valley.

Napoleon's plan rested on the fear that the Mississippi Valley might not be able to resist American expansion, and on the need for a source of basic food and fiber for the plantations of Santo Domingo. On 1 October 1800, the Treaty of San Ildefonso was concluded between France and Spain. Spain agreed to transfer Louisiana to Spain in return for Napoleon's promise that part of the kingdom of Tuscany in Italy would be transferred to France. As Thomas Jefferson became America's third President on 4 March 1801, his administration faced the reality of a New Orleans and Louisiana transferred from impotent Spain to strong and aggressive Napoleonic France.

Louisiana's new status as French territory was not welcomed by the Jefferson administration. Expansionist in nature, and militarily strong, Napoleon Bonaparte's France stood as a real threat to the westward movement of the American frontier. Jefferson instructed Robert Livingston, the American minister in Paris, to attempt to purchase New Orleans. Jefferson feared that the French would close the port as the Spanish had in the years before the Pinckney Treaty. When this happened in October of 1802, Jefferson asked Congress for an army of 80,000 men and a fleet of fifteen Mississippi gunboats. James Monroe was sent to pressure the French to sell.

A combination of Jefferson's increasingly belligerent attitude and good fortune caused the American efforts to succeed in an unexpected fashion. Napoleon's efforts to control Santo Domingo and turn it into a major source of tropical staples was hindered by a slave rebellion. A force of 60,000 French troops had been unable to crush the uprising. Napoleon decided to abandon the entire scheme in March of 1803. On 11 April 1803, French Foreign Minister Talleyrand asked an astonished Robert Livingston if the United States would be interested in purchasing all of Louisiana, along with New Orleans. After a period of intense negotiations,

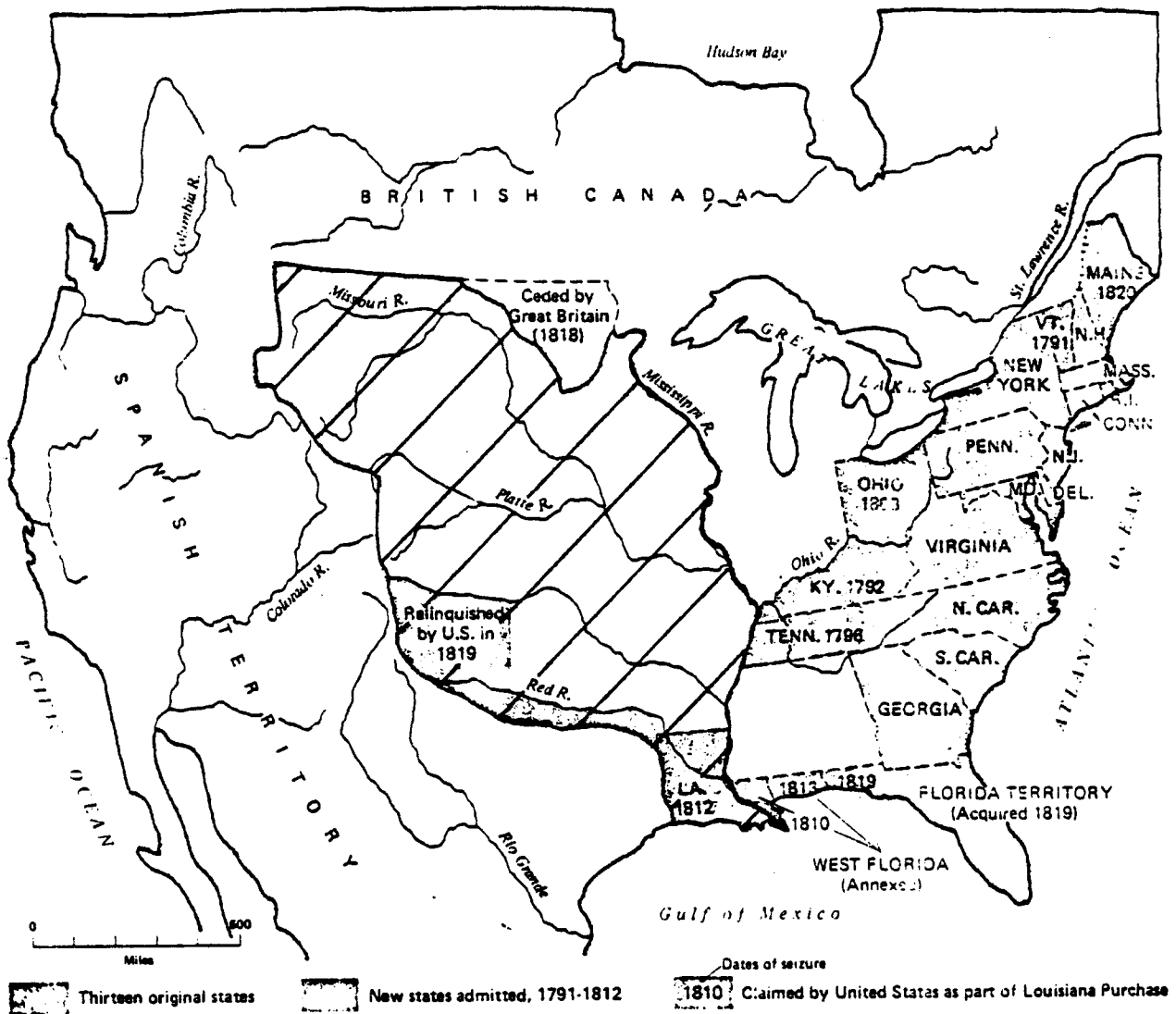


Fig. 9-6: The Louisiana Purchase and new states, 1791-1812. (Goetzmann 1966)

a treaty draft was signed 30 April 1803, transferring Louisiana to the U.S. for 80,000,000 francs, a sum of about \$15,000,000.00. The official ceremony giving Louisiana to the United States was held in New Orleans 20 December 1803 (Lewis 1934; De Conde 1976).

Since Louisiana was considered to include all the Mississippi River drainage west of the river, the Black Hills and surrounding prairie region became U.S. territory with the Louisiana Purchase. Where the upper Missouri was concerned, the U.S. had inherited the old Spanish problem of dealing with established British interests operating out of Canada. The Lewis and Clark expedition and creation of the Missouri Fur Company and American Fur Company interests placed the British on notice that the Americans would be much more aggressive competitors than were the Spanish. The War of 1812 provided a contest of will over control of the upper Missouri.

British influence over the fur trade became a factor in conflicts leading up to the War of 1812. Changes in British trade policy closed much of the European market to furs from the United States in 1811. Returning with the furs gathered in the 1811 season, Manuel Lisa reached St. Louis to find fur prices reduced to half of their early 1811 levels because of these policies. Following a massive exodus of stockholders, the old St. Louis Missouri Fur Company was reorganized on 24 January 1812 as the Missouri Fur Company with William Clark as president. The new company expressed a determination to continue the upper Missouri trade. Given the dismal prospects for any profit from the deteriorating market, the motive may have been to insure that the upper Missouri Indians remained loyal to the United States. Lisa sent two keelboats filled with trade goods and 87 men up the river. A well-constructed fort named Ft. Manuel was built along the west bank of the Missouri River in what is now northeastern Corson County, South Dakota. The St. Louis interests would attempt to insure the loyalty of the upper Missouri in the impending conflict.

Ft. Manuel enjoyed a brief and troubled existence. British Major Robert Dickson, married to a Yanktonai Sioux wife, had travelled extensively among upper Missouri tribes to create anti-American sentiment. Perhaps because of Dickson's influence, a coalition of Indians (may have included Crow, Arickara, Cheyenne, Hidatsa and Arapaho) forced the abandonment of Ft. Manuel. Accounts seem to agree that the leaders in the assault were the Yanktonai Sioux. The fort was destroyed on 5 March 1813. Lisa spent the balance of the war supplying trade goods and advice to the tribes of the upper Missouri. Key Sioux leaders, such as the Minneconjou Black Buffalo, were persuaded to remain loyal to the United States. After the war, Robert Dickson commented that if he had been able to win the unqualified support of the Sioux, the destiny of the upper Missouri might have been changed. As it was, the United States emerged from the War of 1812 in a strengthened position along the upper Missouri (Hafen, I 1965; Chittenden 1902; Oglesby 1965).

The signing of the Treaty of Ghent on Christmas Eve of 1814 conferred advantage on neither of the participants. The treaty provided for status quo ante bellum (things as they were before the war). The treaty ending the War of 1812 obligated the U.S. and England to entrust a number of the issues left unsettled on the battlefield to negotiation. Success at the conference table soon eclipsed that achieved in armed conflict. Especially significant was the Accord of 1818 which disposed of two issues having great importance to the upper Missouri. The U.S. and Britain agreed that their border between Lake of the Woods and the Continental Divide would be 49 degrees north latitude, the present U.S. - Canadian border. The Black Hills and surrounding prairie regions were finally placed within the United States, beyond the threat of any conflicting diplomatic claims. In the region north and west of the Black Hills, the U.S. and Britain agreed to hold the Oregon Country as joint territory for ten years. The agreement was subject to renewal on mutual consent of both parties. In effect, the United States and British endorsed their common claims to Oregon, to the exclusion of everyone else (May 1975; Perkins 1963).

A series of diplomatic questions remained to be resolved before Wyoming's status as U.S. territory would be completely established. The Adams - Onis agreement of 1819, between Spain and the United States, established a boundary between the U.S. and Spanish Mexico. Across the Great Plains, the boundary followed a line beginning along the Red River of the South, reaching north along the 100 degrees of west longitude to the Arkansas River and then west along the Arkansas to its source. From the source of the Arkansas, high in the Rocky Mountains in what is presently Colorado, the boundary followed a line north of 42 degrees latitude and thence west to the Pacific. The portion of the border near the junction between the line from the source of the Arkansas to 42 degrees included a portion of what would become Wyoming (ibid).

The Texas revolution of 1836 and the subsequent establishment of the Republic of Texas further complicated this condition. Mexico had traditionally recognized the border of Texas as the Colorado River of Texas. The Republic of Texas insisted that its boundary with Mexico ran up the Rio Grande River to its source, and from that point north to the 42nd parallel. The Texas claim meant that a narrow strip of land between the Adams - Onis boundary and the Texas claim lying roughly along the North Platte River in south-central Wyoming remained in dispute.

All of those issues were settled in the mid-1840's. On 1 March 1845, Texas was admitted to the Union. One of the conditions for statehood was the relinquishment by Texas of all claims to the upper Rio Grande region. The Oregon question was settled on 15 June 1846 when the boundary between U.S. and British territories was extended along the present U.S. - Canadian border following the 49th parallel from the Continental Divide to the Pacific. Thus the Snake River region, in

THE UNITED STATES, 1822

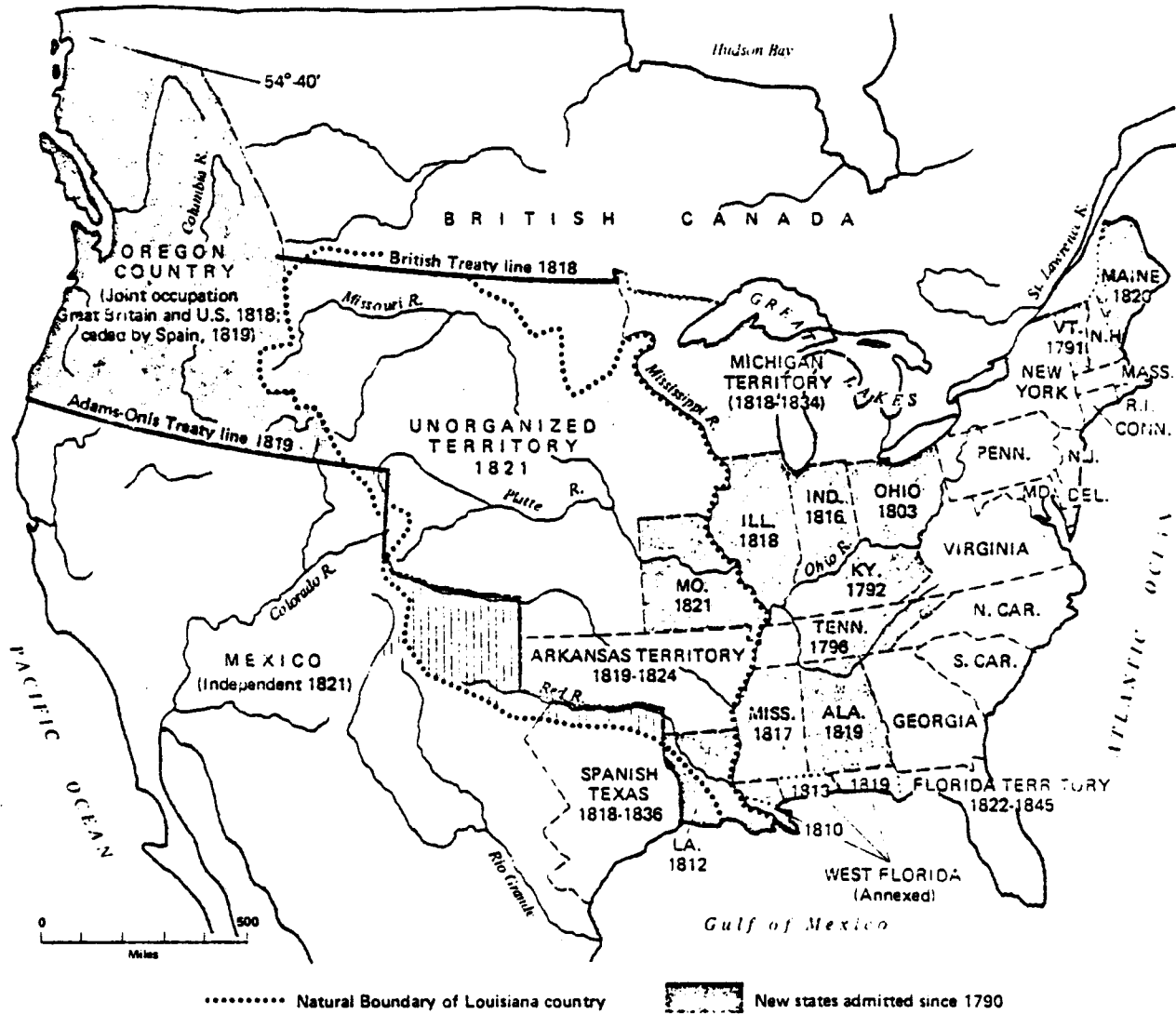


Fig. 9-7: The United States in 1822, including the Unorganized Territory. (Goetzmann 1966)

what would become northwestern Wyoming, finally became U.S. territory. The Treaty of Guadalupe Hildago added the last piece of Wyoming territory in 1848. Included in the land ceded by Mexico to the United States at the end of the Mexican War were the lands south of the 42nd parallel in the Green River drainage of southwestern Wyoming. By the termination of the Mexican War, the Black Hills and surrounding prairie regions were securely within American dominated territory (Graebner 1955).

INDIAN RELATIONS AND TREATIES

The isolation of the Black Hills and surrounding upper Missouri prairie regions insured their relative immunity from early U.S. Indian policies. There is no evidence that the British, French or Spanish governments attempted to enter into treaties with the Indian peoples of the Upper Missouri region prior to the American Revolutionary War. Faced with the reality of formulating its own federal Indian policies in the years following the Revolutionary War, the government created what became known as the "government factory system". Based on the concept that government owned fur posts ("factories") could be used as a stabilizing force on the frontier, the government factories would provide quality trade goods at honest prices. Liquor would be forbidden at the government posts. Indians would receive a positive exposure to non-Indian society. Legislation encompassing the factory system philosophy was passed in the 1790's, but the program never received adequate financial support. Only seven factories were purchased. None was closer to the Black Hills area than Fort Osage on the Missouri River in central Missouri. The fur trade continued to be conducted by private traders working under license or operating in defiance of the law (Chittenden 1935; Phillips 1961).

The Lewis and Clark expedition initiated a new era in relations between the U.S. government and Indian people on the upper Missouri. Although the factory system remained the official policy at the time of the expedition, the Jefferson administration accepted the fact that it might require decades to establish permanent posts on the upper Missouri. In the meantime, expeditions to win the friendship and insure the obedience of Indians in the region would be necessary. This was one of the tasks of the Lewis and Clark expedition, and Lewis and Clark attempted to impress upon Indians they met that the President of the United States was now their leader, and they owed allegiance to him. The Indians were instructed not to interfere with traders on the Missouri River, and to avoid making war on their neighbors. Several bands of Sioux with whom Lewis and Clark met in the area around Big Bend in South Dakota questioned the expedition's right to use the river, as well as the authority of the President. Lewis and

Clark were forceful and proved their point by continuing up the river after several anxious days of meetings with the Indians (DeVoto 1953; Jackson 1962).

On their return journey down the Missouri in 1806, Lewis and Clark persuaded the Mandan Chief Shahaka ("Big White") to return with them to St. Louis. It was hoped that he would be able to continue to Washington to meet with President Jefferson. Shahaka's journey was made with the understanding that the government would provide escort so that he could have safe passage back to the Mandan villages. Shahaka's return in the summer of 1807 was with an escort provided by Ensign Nathaniel Pryor, a former member of the Lewis and Clark expedition. Pryor's small force of fourteen soldiers and about forty traders led by Pierre Chouteau, were involved in a battle with the Arikara at the upper Arikara village on 9 September 1807. Three of Pryor's men were wounded, and Chouteau lost four men, with three additional wounded. The party was forced to return to St. Louis without returning Shahaka. These difficulties and added problems associated with the War of 1812, including the abandoning of Fort Manuel in March 1813 (discussed above), made it clear that American interests in the upper Missouri region required a more forceful policy than had been previously pursued (Chittenden 1935).

The goal of exerting more influence on Indians of the upper Missouri was one of the reasons for the ill-fated Atkinson expedition of 1819-20. Secretary of War John C. Calhoun was convinced that only permanent military posts nearby could provide sufficient influence to force Indians to follow government policies. To put this idea into action, an expedition commanded by Colonel Henry Atkinson and Major Stephen Long was organized to ascend the Missouri and build a military post near the Mandan villages in 1819. The expedition planned to use steamboats to help solve the problem of supplying a post over 1,000 miles by river from the nearest settlement. Atkinson left St. Louis on 4 July 1819, but frequent mechanical problems kept the steamboats from moving rapidly upriver. Winter found the expedition only as far as Council Bluffs. The expedition built a log fort named Fort Atkinson and settled down to await spring. Disgusted with Atkinson's failures and the losses of life due to scurvy during the winter, the War Department cancelled plans to continue the expedition to the Mandan villages during the summer of 1820. Major Long and a small party of soldiers and scientists travelled up the Platte and South Platte Rivers to the Rockies, and then south down the east slope in search of the source of the Red River of the South. They failed to find it. Fort Atkinson would remain the most advanced U.S. post on the upper Missouri until it was abandoned in 1827. After that, Fort Leavenworth, Kansas would be the only Missouri River military post upstream from

Independence until the purchase of Fort Pierre in 1855, and the subsequent relocation of its garrison to the new Fort Randall in 1857 (Wood 1966; Prucha 1962).

The U.S. Army's inability to establish and maintain an upper Missouri military post had considerable influence on Indian relations in the region. As indicated above, the problem of securing passage by the Arikara villages for the fur trade required the Leavenworth expedition to the villages in the summer of 1823, and the problems of coordination with Indian allies and non-military fur trade elements of the expedition rendered it ineffective. The Leavenworth expedition's shortcomings and continued problems on the upper Missouri led to the Atkinson expedition of 1825. Commanded by Henry Atkinson, promoted to Brigadier General, the expedition consisted of 400 men in eight keelboats that were equipped with man-powered paddlewheels. An advance party of forty men would hunt and scout ahead. The objective was the Columbia River, and the size of the expedition was intended to impress all Indians along the upper Missouri, including those who ranged the region around the Black Hills (Prucha 1962).

Leaving Fort Atkinson in mid-May 1825, the expedition included Colonel Henry Leavenworth and Superintendent of Indian Affairs on the Upper Missouri, Benjamin O'Fallon. Treaties were concluded with representatives of tribes along the Missouri River as far upstream as the Yellowstone. Similar in nature, these treaties were intended to guarantee passage of traders and to insure that the Indians would recognize only the authority of the United States and abandon their contacts with Hudson's Bay and other British traders. Apparently impressed by the size of the Atkinson expedition, representatives of the Yankton, Yanktonai and Teton accepted the treaty at Fort Lookout. Subsequent stops at the Bad River, the Cheyenne River, the Arikara villages, the Mandan villages and the mouth of the Yellowstone, resulted in similar agreements with Indian peoples along the river at these points (Kingsbury, I 1915).

By the time of the Atkinson expedition, there had been significant changes in federal Indian policies. Legislation abandoning the concept of the government factory system had been passed in 1822.

Based on intelligence gathered by the 1820 Long expedition and earlier government investigations within the Great Plains, the region had been identified as the "Great American Desert". This classification had given rise to the concept that it should be reserved for the exclusive use of Indian people, and that the Indians remaining in the forested regions of the country should be transferred to the Great American Desert. Thus the Great Plains, including the upper Missouri and the Black Hills region, would become part of what was soon to be known as "permanent Indian country". This land

was not considered attractive to American frontier farmers, and Indians would be able to continue their traditional lifestyle with confidence on land from which they would not be pushed by pioneer farmers. Fur traders could operate in the area under license, since the Indians would continue to want the Whiteman's goods (Prucha 1962).

Fundamental changes in the structure of the fur trade also influenced Indian policy in the Upper Missouri country in the mid-1820's. While Atkinson's 1825 expedition labored up the Missouri to make the river a safe highway for the Saint Louis fur trade, some of the Saint Louis traders had discovered new routes to the mountains and a new system of organization which would end their reliance on the upper Missouri. The Ashley-Henry partnership's encounter with the Arikara noted above, and the continued uncertainty regarding use of the Missouri River by the trade, had stimulated a search for alternate routes to the mountains. By the summer of 1824, the route up the North Platte and Sweetwater in central Wyoming and then through South Pass, was known. Ashley chose to use this route to move trade goods in and furs out by packhorse, while abandoning the Missouri. Since packhorses could move to a number of locations, Ashley also decided to end the practice of building fur posts. Instead, the pack trains would meet the trappers each summer in a pre-determined spot. Furs would be exchanged for trade goods at these "rendezvous" locations and the trade could shift from drainage to drainage following the supply of furs with a minimum of difficulty. The South Pass - Sweetwater - North Platte - Platte route would provide the highway to the east.

The combination of the rendezvous system and the Platte River route brought sweeping changes to the fur trade. Until the mid-1830's, the construction of new fur posts was limited. This tended to support the practice of limiting the non-Indian presence in Permanent Indian Country. For the Black Hills, the new system perpetuated the isolation from established trade routes that had begun with the emphasis on the Missouri River. The Platte River road was located over 100 miles south of the Black Hills. The Hills region remained an island far from the established highways to the West (Morgan 1964; Dale 1941).

Changes in the West associated with Oregon migrations, the founding of Mormon Utah, the Mexican War and the California gold rush, rendered existing Indian policies obsolete. The migration of 40,000 emigrants through the Platte River valley by 1849 necessitated a basic change in Indian relations. Permanent Indian Country was being subjected to population pressures unforeseen when this set-aside area was created. While fears of Indian attacks were exaggerated, immigrants' stock offered a great temptation to plains Indians, and damage

done by wagon trains to springs, pasture and game resources in the river valley was a great irritation to Indian peoples who used the Platte Valley as a wintering area. When California became a state in 1850, pressure for reliable overland communications intensified.

The "Corridor Policy" was finally implemented by the 1851 Treaty of Fort Laramie. To complete the effort to move Indians off the Oregon-California Trail east of South Pass (Wyoming), plans were made to hold a council at Fort Laramie in September of 1851. Arranged by the old mountain man Tom Fitzpatrick, the first U.S. Indian Agent for the High Plains, and D.D. Mitchell, Superintendent of Indian Affairs at St. Louis, the Fort Laramie council was supported by the then-large Congressional appropriation of \$100,000.00. Approximately 10,000 Indians, representing twelve different tribes, appeared at the fort. The Indians' horse herds were so large that it was necessary to move the treaty proceedings thirty-six miles down the North Platte to the mouth of Horse Creek in Nebraska. In a series of councils which lasted until 17 September, the 1851 Treaty was completed (Kappler 1909, II: 594-96; Hafen and Young 1938).

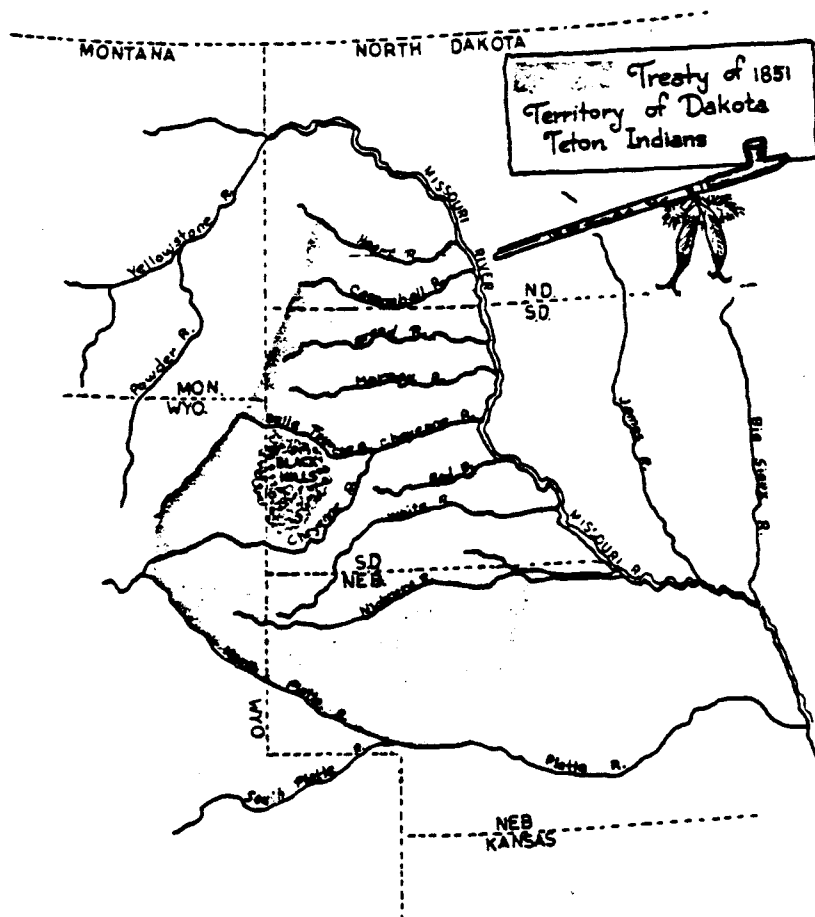


Fig. 9-8: Indian land set apart in the 1851 Fort Laramie Treaty (Clowser 1974).

A number of sections in the 1851 Treaty would influence the later 1868 Treaty of Fort Laramie. The government achieved its objective of opening a corridor across the Great Plains along the Platte River Road. The Indians agreed to allow the government "to establish roads, military and other posts, within their respective territories" (Washburn 1964, IV). They also agreed to conduct future business through "head chiefs" and to respect boundaries between their nations, based on a map which was created at the council. This map assigned the Black Hills and surrounding territory to the Teton Sioux. A "catch clause" was included stating that the map would not prejudice claims that tribes might have to other lands. The significance of this section was probably lost on Indian people at the council. The Anglo-Saxon concept of perpetual ownership had been applied to the Northern Plains. Henceforth, negotiations involving the Black Hills would be conducted only with the Sioux. For its part, the government promised an annuity of \$50,000.00 in goods yearly for fifty years, and protection of the Indians from "depredations" committed by U.S. citizens. The treaty was signed by twenty-one Indian leaders and fifteen Whites. The arrival of a supply train carrying \$50,000.00 in annuities served as a token of the government's commitment to the treaty (Washburn IV:2477-2480).

The treaty did not survive in the form in which it had been negotiated at Horse Creek. This would also be true of the 1868 Fort Laramie Treaty. When it received the 1851 Treaty, the U.S. Senate unilaterally modified it by reducing the annuity period from fifty years to ten (The President could provide an additional five years at his discretion). Although Tom Fitzpatrick persuaded some Indian leaders to agree, some leaders who had been at Horse Creek later complained that they had been swindled in the treaty proceedings. Thus the problem of antagonism created by differences in actual written treaty texts and the Indians' understanding of what treaties included, existed from the time of the original Fort Laramie Treaty (Hafen and Young 1938; Annual Report of the Commissioner of Indian Affairs 1853:366-67).

The 1851 Treaty provided only a temporary answer to the issue of the status of the Northern Plains. General William Harney's campaign against bands of Teton Sioux along the Platte River Road and in the region from Fort Laramie past the eastern edge of the Black Hills to Fort Pierre in 1855-56, provided a preview of hostilities which began in earnest during the next decade. The discovery of gold in southwestern Montana in 1862 set the stage for the conflict which would lead to the creation of the 1868 Fort Laramie Treaty.

The Montana gold rush was only one element of the dilemma which gold rushes created for federal Indian policy across the West. The original corridor concept embodied in the 1851 Fort Laramie Treaty was acceptable to Indian people only as long as there was a single destination for the migrants who crossed the plains. Opening of the Colorado gold fields and the Montana gold rush led to demands for separate corridors to connect these areas with routes to the East. The Colorado miners wanted

a corridor along the Smoky Hill River across central Kansas. After trying several routes, Montanans settled on what came to be known as the Bozeman Trail. Named for John Bozeman, who

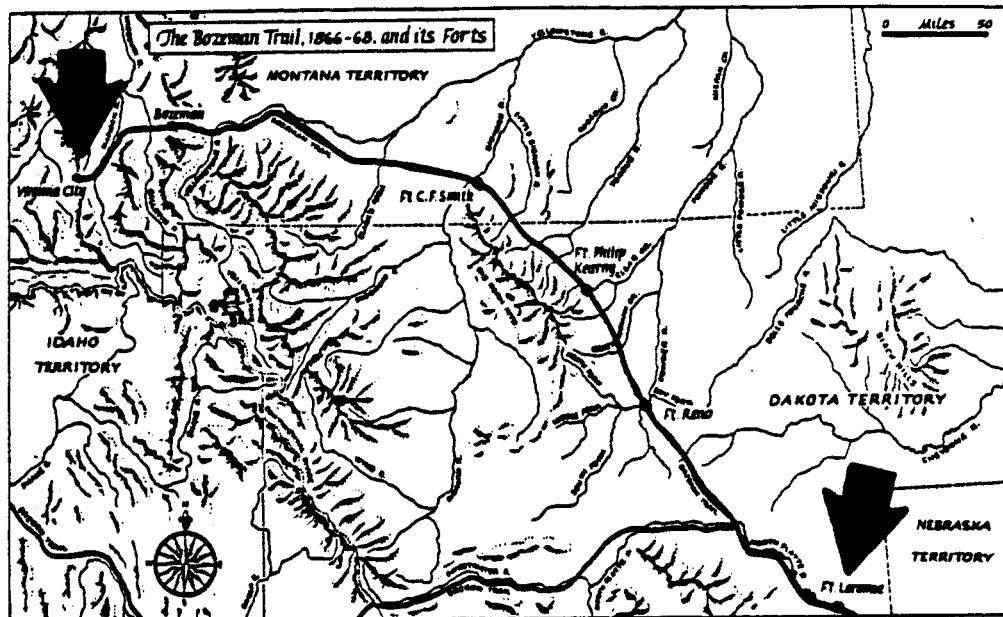


Fig. 9-9: The Bozeman Trail (between arrows).
(IN: Andrist 1964:100).

had located part of it, the Bozeman left the Platte River Road near Fort Laramie, and angled north-west out of the Platte River Valley, reaching the headwaters of the Powder River, east of present Midwest, Wyoming. From there it continued to the south end of the Big Horn Mountains near where Buffalo, Wyoming is today. The Bozeman then

followed the eastern base of the Big Horns north into Montana and, after crossing the Big Horn River, turned west to follow the Yellowstone River to the base of Bozeman Pass. Once over the pass, the trail continued to the edge of the gold fields (Hebard and Brininstool 1922, I:20-39).

The Bozeman Trail question became involved in proceedings of the Indian Peace Commission, organized to end hostilities that followed the Great Sioux Rebellion in Minnesota and eastern Dakota in August of 1862. Campaigns led by General Alfred Sully in 1863 and 1864, had been intended to seek out and punish Indians involved in the Rebellion. The Battle of Killdeer Mountain, fought in 1864 near the mountain of the same name in western North Dakota, resulted in an army victory over a large camp of Sioux, including many Teton Sioux who had played no part in the Great Sioux Rebellion. Although Killdeer Mountain was an army victory, its practical effect was to widen the scope of conflict by involving some western Teton Sioux bands which had hitherto been peaceful. Dakota Territory Governor Newton Edmunds, who was also acting Superintendent of Indian Affairs there, became highly critical of the military campaigns during the 1864-65 session of the Dakota Territorial Legislature. He believed that a peace treaty with the Indians might accomplish a great deal more (Olson 1965).

In response to this sentiment, President Andrew Johnson appointed a mixed commission of military and civilian negotiators. The commission consisted of two generals and four civilians, and it chose Governor Edmunds as its chairman at an organizational meeting in Yankton on 20 September 1865. In addition to Edmunds, the Indian Bureau was represented by Edward B. Taylor, Northwestern Superintendent of Indian Affairs stationed at Omaha. The commission's objectives were to travel up the Missouri River by steamboat, meeting with the Middle and Western Sioux to conclude peace treaties and negotiate agreements for rights-of-way for wagon roads. The rights-of-way issues were especially thorny, since surveys of some roads and military expeditions to support those surveys had already occurred. Among the right-of-way issues considered was the Bozeman Trail question (Kingsbury 1915, I:404-12).

Wagon roads had figured prominently in the summer of campaigning and other activity which preceeded the Edmunds Commission's peace mission in the fall of 1865. Included in Congressional appropriations during 1864-65 were several roads to serve the Montana gold fields. An appropriation of \$50,000.00 was provided for a road from Omaha up the west bank of the Missouri to the Niobrara, then up that river to the east edge of the Big Horns where it joined the Bozeman Trail route to Montana. J.A. Sawyer of Sioux City was placed in charge of the Niobrara Road project. A second project involved a road across Dakota from the Minnesota border to the mouth of the Cheyenne, and up the Cheyenne and the Belle Fourche Fork to the intersection with the Niobrara Road. W.W. Brookings was Superintendent of this road, and the project was supported by an appropriation of \$30,000.00. Rights-of-way of both these roads passed close to the Black Hills and would need to be secured by treaties with the Indians. This was especially important since, for all practical purposes, the western end of both roads was the Bozeman Trail (Jackson 1952).

The experience of the summer of 1865 reinforced the belief that cooperation from the Indians would be essential to any road building in the region. The Brookings party completed a survey and marked the route of the projected Big Cheyenne road as far west as the forks of the Cheyenne, seventy-five miles east of the Black Hills. Convinced that the promised military protection would be inadequate to allow surveys near the Black Hills, the Brookings party ended their work for the season and returned to Eastern Dakota Territory. The Sawyer party explored and marked the road as far as Fort Laramie, but from the headwaters of the Niobrara, past the southern edge of the Black Hills and on to Fort Laramie, they experienced considerable Indian opposition. Nathaniel Hedges, brother of leading Sioux City merchants, and Newell Sawyer, brother of the expedition commander, were killed, and several others members were wounded. The experience convinced Sawyer that there could be no wagon roads without an agreement with the Indians. Also interesting is the fact that any attempt to survey routes near the Black Hills were met with stiff resistance.

The Edmunds Commission was forced to consider all of the conditions outlined above as in the negotiations undertaken in the fall of 1865. On 25 September 1865, the commission left Yankton for the Upper Missouri aboard the chartered steamboat Cylipso. Low water and the late season restricted the activity of the commission. An agreement was concluded with several bands of Miniconjou and Brule, dealing with a right-of-way for the Big Cheyenne Road, in return for \$25,000.00. Since upriver points near the mouth of the Yellowstone were not reached, the commission planned another series of councils along the river in the spring of 1866. In an effort to contact western bands living near the Black Hills, members General W.W. Sibley and Edward Taylor were sent on a separate mission to western Nebraska. The remainder of the commission left Yankton on the Ben Johnson 11 June 1866 (Kingsbury 1915, I).

Commissioners Sibley and Taylor would face the task of securing agreements for the Bozeman Trail, since most Indian bands living along the trail were not often found along the Missouri River. During the winter of 1865-66, a call had gone out to Western Sioux, Cheyenne and Arapaho leaders to meet at Fort Laramie to discuss the wagon roads issue. From the start, the Fort Laramie council went badly. Sioux leaders protested that opening the Bozeman Trail would destroy their last decent hunting ground. The council was deadlocked on this issue when Colonel Henry Carrington and part of the 18th Infantry Regiment arrived at Fort Laramie on 16 June 1866. When the Indians learned that the soldiers were to be stationed along the Bozeman Trail, any possibility of a peaceful solution to the problem vanished. The Oglala leader Red Cloud delivered a terse assessment of the situation:

"The Great Father sends us presents
and wants us to sell him the road,
but the white chief goes with soldiers
to steal the road before Indians say
yes or no" (Olson 1965:38).

Chiefs of bands who ranged the Powder River country angrily left the council. When a few remaining chiefs (whose game resources were not threatened by the trail) signed a treaty draft, Commissioner Taylor considered the matter closed, and the 18th Infantry was sent to open the trail.

It would later become apparent that Red Cloud should have been taken more seriously. To their dismay, Colonel Carrington and his regiment discovered that they were at war with the Indians when they attempted to establish forts along the trail in the fall of 1866. Three forts were constructed. Fort Reno, rebuilt on a site that had been briefly used by the Conners Expedition in 1865, was located east of present Kaycee, Wyoming, on the Dry Fork of the Powder River. New forts built included



Fort Phil Kearny, along Little Piney Creek north of present Buffalo, Wyoming, and Fort C.F. Smith, near the Big Horn River west of present Lodge Grass, Montana. Although the army was able to maintain the forts through 1866 and 1867, the Indians kept them under a virtual state of siege much of the time. Traffic on the Bozeman Trail was always in danger, since there were too few soldiers to patrol the trail away from the forts.

On 21 December 1866, Captain William J. Fetterman and a force of eighty soldiers were annihilated as they tried to relieve a wood-gathering train under attack near Fort Phil Kearny. Fetterman's defeat added emphasis to Carrington's pleas that the army had better begin to take seriously what was coming to be called "Red Cloud's War".

Fig. 9-10 : Oglala Chief Red Cloud, a major opponent of the Bozeman Trail and the military presence along it (C.N. Bell photo, Washington, D.C. 1880).

The situation along the Bozeman Trail did not improve for the army in 1867. Reinforcements, including more cavalry, were sent to the forts. The regiment's obsolete muzzle-loading rifles were replaced by the new breech loading Springfields. Nevertheless, the stalemate along the trail continued. The army could hold the forts, but the Indians had the trail. In two separate fights, the Wagon Box (near Fort Phil Kearny on 2 August 1867), and the Hayfield (1 August 1867), the Indians nearly destroyed additional army units. Demands placed on the army's limited strength, due to Reconstruction in the South and other problems in the West, ruled out an offensive along the Bozeman Trail. For the time being, winning Red Cloud's War appeared to be out of the question for the army (Brown 1962).

Over the winter of 1867-68, the government was forced to confront several unpleasant facts. Congress seemed in no mood to commit significant financial support to a war with the Indians over the use of the Bozeman Trail. The war could not be won with the resources available. There appeared to be no possibility that the Indians would cede the trail peacefully. Many politicians shared Dakota Governor Edmunds' belief that a negotiated peace with the Indians would be less expensive and more successful. Reluctantly, the army and some more militant politicians were forced to concede to this viewpoint.

The result of these attitudes was what came to be known as the "peace policy". Embodied in an act of Congress passed on 20 July 1867, the peace policy provided for concentration of Plains Indians in two large reserves. North Plains tribes would be held north of the North Platte River, and South Plains tribes would occupy the area south of the Arkansas River. These two areas would be for the exclusive use of Indian peoples and, except for Indian Bureau personnel, they would be off-limits to Whites. Indians and non-Indians would refrain from attacks on one another. The tribes would no longer threaten travel routes and settlements outside the regions allotted to them. They would also be isolated from the sort of interracial contact which had infected Indians with White vices. Ironically, the part of the plan recommending isolation of Indians on two large reserves had first been suggested by General William T. Sherman, who had wanted to use the army to force Indians onto the reserves. Congress thought well of the plan, but required that it be implemented peacefully through negotiations. If negotiations failed, the Secretary of War was authorized to increase the size of the military units there and put General Sherman's plan into action (Priest 1942; Fritz 1963).

The peace plan gave control of the Black Hills and the Bozeman Trail to the Indians as part of the northern reserve. Both areas were outside the corridor opened by the peace plan, and were consequently written off, for the time being, as areas of potential frontier expansion. Before the Indians continued their campaign to close the Bozeman Trail with the Wagon Box and Hayfield fights in August of 1867, the government had already conceded defeat in Red Cloud's War. Also lost were the concessions gained from Missouri River bands of Sioux for rights-of-way along the Niobrara and Big Cheyenne Roads that had been negotiated by the Edmunds Commission during the summer of 1866. There would now be no roads across the region and the Black Hills would lie in the center of this vast Indian reserve.

A negotiating commission was quickly selected to put the peace policy into operation. Consisting of seven members, the commission was headed by Commissioner of Indian Affairs, N.G. Taylor and J.B. Henderson, the Chairman of the Senate Committee on Indian Affairs. Civilians J.B. Sanborn and S.F. Tappen, and Generals W.T. Sherman, W.S. Harney and A.H. Terry were also members. The commission met and organized at Saint Louis on 6 August 1867. Before 11 September the commission made a trip up the Missouri River to visit with the Indians of agencies along that drainage. The original idea was to put the plan into action at two big conferences, one held at Fort Laramie on 13 September, and the other near Fort Larned, Kansas, a month later. Runners had been sent to gather Indian leaders. On 11 September 1867, the commission headed west by train from Omaha (Utley 1977).

From the beginning, negotiations at Fort Laramie went badly. Had things gone according to plan, the treaty would now be remembered as the 1867 Treaty. When the commission reached Fort Laramie, it found a disappointing turnout. Some bands of Sioux were there, including a few who had recently been fighting on the Bozeman Trail. But important leaders, including Red Cloud, refused to talk until the forts and the trail were abandoned. After a few days of waiting, the commission headed south to Fort Larned, promising to return again in early November. Additional invitations were sent to warring bands.

Several weeks of negotiations at a site along Medicine Lodge Creek near Fort Larned resulted in the Medicine Lodge Treaty of 1867. Companion to the subsequent 1868 Fort Laramie Treaty, the Medicine Lodge Treaty contains language almost identical to the Fort Laramie Treaty in many of its articles. Wording of most of the two treaties was drafted at preliminary meetings of the commission. Negotiations consisted largely of getting Indians to agree to conditions that had already been decided by the government, rather than language which resulted from direct negotiations between Indian leaders and the commission.

The commission's return to Fort Laramie in November brought only more frustration. Many Indian leaders refused to negotiate until the Bozeman Trail was closed and the forts along it were abandoned. Under the circumstances, there was little reason for the commission to stay at Fort Laramie, and it hurried east ahead of the advancing winter. The year 1867 ended with the peace policy only half implemented.

Following a number of attempts to reassure Indian leaders during the winter of 1867-68, the commission returned to Fort Laramie in April of 1868. Several bands of Indians appeared separately to talk to commissioners. First signers were Spotted Tail (Sinte Gleska) and some other Brule Sioux leaders on 29 April 1868. With some significant exceptions, this treaty draft was what became the 1868 Fort Laramie Treaty (Annual Report of Commissioner of Indian Affairs 1868:26-50; Olson 1965).

Perhaps the most significant article in the original treaty draft was Article II, which created the Great Sioux Reservation. The draft defined the reservation as:

"Commencing on the east bank of the Missouri River where the forty-sixth parallel of north latitude crosses the same, thence along the low-water mark down said east bank to a point opposite where the northern line of the State of Nebraska strikes the river, thence across said river and along the northern line of Nebraska to the one hundred and fourth degree of longitude west from

Greenwich, thence north on side meridian to a point where the forty-sixth parallel of north latitude intercepts the same, thence due east along said parallel to the place of beginning;..." (Annual Report of Commissioner of Indian Affairs 1868).

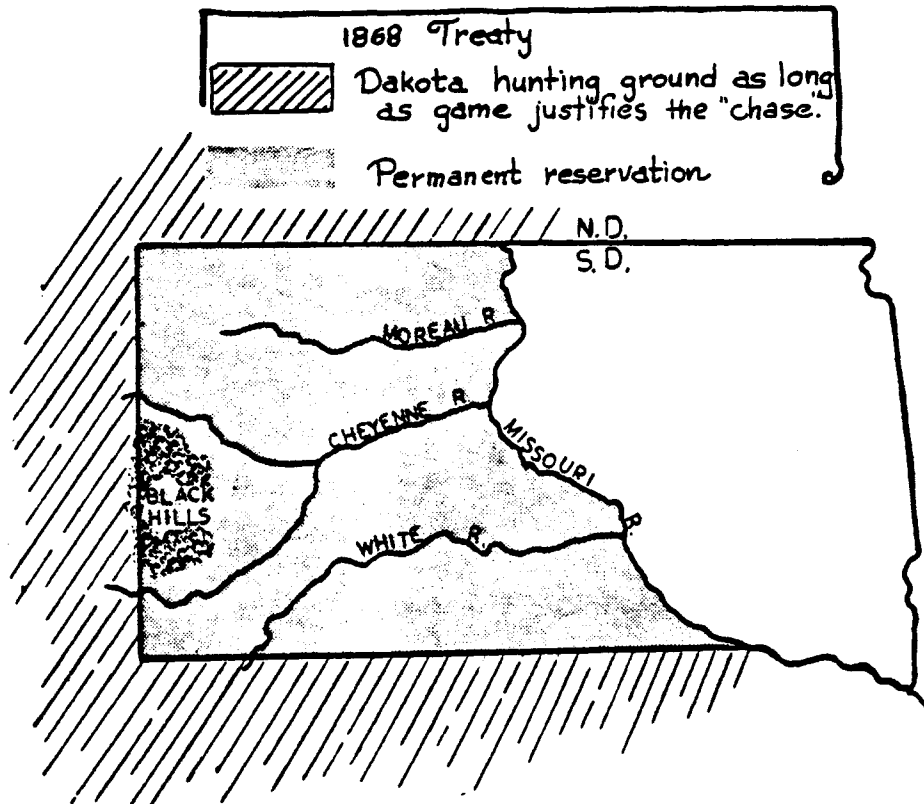


Fig. 9-11: Indian land set apart in 1868 Treaty of Fort Laramie (Clowser 1974).

This land was "set apart for the absolute and undisturbed use and occupation of the Indians herein named ..."

Procedures for additional land cessions from the Great Sioux Reservation were also clearly established. Article XII stated that no further land could be ceded from the reservation without the agreement of three-fourths of the adult male members of the tribe. This article also stipulated that land plots selected by individual Indians, in accordance with Article VI, could not be ceded under any circumstances without the agreement of the persons involved.

Article XVI had a provision that the country "north of the North Platte River and east of the summits of the Big Horn Mountains" would be considered "unceded Indian Territory", guaranteeing Indian access to the Powder River hunting grounds. This article also provided for closing of the posts in the region and the road leading to them.

Other articles of the treaty provided for land allotments to individual Indians, for grants of clothing and other benefits, and for location of agencies. Indians and non-Indians were obligated not to commit "wrong or depredation" on other parties, and if such acts were committed, the tribes or the government were liable for compensation.

Article XI included a long list of offenses which Indians agreed not to commit against persons outside their reservation.



Fig. 9-12: Sioux Indians at the 1868 Fort Laramie Treaty signing with General William T. Sherman (A. Gardner photo, U.S. Signal Corps, War Department).



Fig. 9-13: The 1868 Treaty Council in session near Fort Laramie during the spring of 1868 (A. Gardner photo, courtesy South Dakota State Historical Society).

All seven members of the peace commission signed the treaty, along with members of the Brule Sioux, on 29 April 1868. The last paragraph in Article XVII leaves the impression that the "Ogallallah", the "Minneconjou", the "Uncpapa" and the "Blackfeet" Sioux also signed at this time. Such was not actually the case. Some Oglala did sign after separate meetings with some of the commission had concluded on 25 May 1868. Red Cloud refused to have anything to do with the proceedings, and he sent word that he would be ready to talk only when the soldiers were gone from the forts along the Boze-man Trail. Eventually he placed his mark on an attachment to the treaty in November of 1868. Some of the bands mentioned in the treaty never signed. Discouraged by the challenge of gaining Indian support for the treaty, most of the commissioners had departed by the end of May, leaving Sanborn and General Harney to continue the struggle (Washburn 1964, IV:2522-25).

It is likely that most of the Teton Sioux were unaware of the treaty and its contents at the time it was created. Realizing that the treaty would be meaningless without more Indian support, Harney and Sanborn managed to convince Father Pierre Jean De Smet, a veteran Jesuit missionary, to seek the support of some of the holdouts. Father De Smet travelled to the Upper Missouri country and held a series of meeting with Indian leaders, including a session with Sitting Bull at the mouth of the Powder River. Sitting Bull and most other leaders with whom De Smet talked did find the terms outlined above to be acceptable. Although he refused to go himself, Sitting Bull approved of a delegation sent to a treaty council at Fort Rice, Dakota Territory. A number of Hunkpapa, Blackfeet, Sans Arc, Two Kettle and Santee leaders attended the treaty signing at Fort Rice on 2 July 1868 (Washburn 1964, IV:2522-25).

While Father De Smet ranged the Upper Missouri, seeking support for the treaty, three of the generals on the peace commission journeyed east with the treaty draft which the Brule had signed near Fort Laramie on 29 April. When they reached Chicago, they met with General Phil Sheridan, commander of all military operations in the Trans-Mississippi West. While Sheridan found most of the treaty draft acceptable, he was concerned about the degree to which the treaty limited army operations on the Great Sioux Reservation. The Black Hills posed a special problem, since the Hills were still largely unexplored, and they might provide an excellent site for a military post that might be needed in case of a final showdown with the Sioux. Sheridan was convinced that such a conflict was inevitable. Consequently, he had the commission add a section to Article XI which read "and they [the Sioux] will not in the future object to the construction of railroads, wagon-roads, mail stations, or other works of utility or necessity, which may be ordered or permitted by the laws of the United States" (Olson 1965:71-78; Annual Report of the Commissioner of Indian Affairs 1868:44-46; Washburn 1964, IV:2523-24).

This addition to the treaty draft, sometimes identified as the "Chicago rewrite", was included in the treaty draft which was submitted to the U.S. Senate for ratification in 1868. There is no evidence that the scattered bands of Indians included in the various treaty conferences were ever informed that the treaty draft had been amended. The Senate, busy debating the question of convicting the impeached President Andrew Johnson, took its time in considering the treaty. Eventually the treaty was examined, and the Fort Laramie Treaty of 1868 was actually ratified on 16 February 1869.

By that time the treaty-making, signing and ratification process had consumed almost two years, and it left as many questions as it answered. Perhaps the most intriguing of these questions is the possibility that there was really more than one Fort Laramie Treaty of 1868. Several characteristics of the treaty-making process suggest such. First is the question of the Chicago rewrite. Since there is no evidence that the changes in the treaty that were made there were ever explained to the Indians, the treaty accepted at the various councils and the treaty the senate ratified were different. The "works of necessity" clause in the Chicago rewrite is particularly significant, since the army argued that it justified George Custer's expedition to the Black Hills in the summer of 1874. The Custer discoveries stimulated the gold such of 1875-76. Since Custer had been sent to the Hills to identify sites for military posts, the army argued that the expedition was a work of necessity. Indian leaders who had attended the treaty councils insisted that they never would have accepted a treaty that included such a clause. They pointed out that the purpose of Red Cloud's War had been to get military posts out of their country. For them, the Custer expedition trail became the "thieves road" (Olson 1965; Hyde 1937, 1956).

In final analysis, the Fort Laramie Treaty of 1868 settled virtually nothing. As noted elsewhere, George Custer's expedition to the Black Hills found gold in 1874, and there was an immediate rush, beginning with the Gordon Party, and gathering steam rapidly in the spring of 1875. Given the times during which the rush occurred and the political pressure to open the Hills, additional diplomacy with the Teton Sioux aimed at an agreement for sale of the Black Hills was inevitable.

Proceedings intended to lead to government purchase of the Black Hills began in the spring of 1875. In May of 1875, delegations from all the Teton Sioux agencies gathered in Washington to discuss the sale of the Black Hills. From the beginning, the council went badly. Interpreters and some of the Indian delegation spent a good deal of time in the saloons and brothels of Washington. Discussions with government officials, including President Grant and most of the Indian Bureau staff, were not productive. Some Indians were willing to sell the Hills, but not for a price low enough to suit the government. Sums cited ranged from seven million to seventy million dollars. The government offered six million dollars (Kingsbury 1915, I:916).

The great council held at the agencies in the fall of 1875 also failed to persuade the Indians to sell the Black Hills. After the failure of the Washington talks, a commission was created to visit the agencies and continue discussions on the sale of the Hills. A government commission, headed by Senator W.B. Allison of Iowa, and including General Alfred Terry, S.D. Hinman (a Sioux missionary) and several others, was to renew efforts to negotiate. Arrangements were made by a sub-committee of the commission which travelled to meet with Oglala leader Red Cloud and Brule leader Spotted Tail during the summer of 1875. The sub-committee had begun with the assumption that Red Cloud was still the most influential leader among the Teton Sioux. Spotted Tail immediately rejected Red Cloud's ideas and insisted that the council be held on Chadron Creek (northwest Nebraska) at a place between his agency and Red Cloud's. This meant that the northern bands on the Upper Missouri that were associated with Sitting Bull and other militant leaders, would be excluded from the council. The sub-committee obtained agreements that many Oglala and Brule would attend, but had no indication that they would be sympathetic to proposals for sale of the Hills.

From the commission's perspective, the great council of September 1875 was a failure. The commission arrived at the Red Cloud Agency on 4 September 1875 and found camps and horse herds covering the countryside for miles. There was a bitter quarrel in progress over where the council should be held. Red Cloud's followers wanted it at their agency. Spotted Tail wanted it on Chadron Creek. A compromise site eight miles east of Red Cloud was agreed upon. The date was set for 17 September, but additional conflict kept the council from beginning until 20 September.

The actual council consisted of Senator Allison's speech that asked the Indians to sell the Black Hills and unceded Indian Indian country, three days of confused Indian deliberation, and a final tense confrontation on 23 September. Surrounded by thousands of armed warriors and confronted by Indians who wanted to kill those who had come to take their land, the commission was probably fortunate to escape alive. From the relative safety of the Red Cloud agency on 26 September, the commission spoke to twenty leaders of the gathered bands. Although they were instructed to reach an agreement, the Indians returned the next day more divided than ever. The commission gave up and headed east (Kingsbury 1915, I; Olson 1965; Hyde 1937, 1956; Utley 1977; Andrist 1964).

The failure of the council left the Black Hills question unsettled. Authorities in Washington and states and territories surrounding the Hills had lost patience by the fall of 1875. In their view, the key elements of what they chose to define as "the Indian question" were wild bands of Sioux who lived away from the agencies in unceded Indian country. These groups hunted and raided where they chose. They terrorized surrounding Indian bands, particularly the Crow, and raided non-Indian trails and settlements in violation of the 1868 Treaty. There were dozens of incidents of robbery, theft, rape and murder performed by the Teton Sioux outside the areas reserved for the Sioux during

the years from 1868 to 1874. In 1876, Dakota Territorial delegate Jefferson Kidder presented to Congress a list of over 200 deaths attributed to the Sioux since the 1868 Treaty, and he contended that none of these were miners illegally trespassing in the Hills. These sentiments were used to argue that something had to be done about the Indians.

"Something" became an attempt to confine all Indians to the agencies and end the free-ranging lifestyle of the wild bands who were seen as a bad example by Indian Bureau and U.S. Army officials anxious to get the Indians to settle down on the reservations. On 3 November 1875, a meeting was held at the White House in Washington. The topics of discussion were the Black Hills and the "Indian question". In attendance were President Grant, Secretary of War William Belknap, Secretary of the Interior Zachariah Chandler, Commissioner of Indian Affairs Edward P. Smith, and Generals Sheridan and Crook. Decisions made included the stopping of attempts to expell illegal miners from the Black Hills, and the implementing of measures designed to force wild bands out of unceded territory and onto land near the agencies. A report from Indian Bureau Inspector E.C. Watkins, after completing a tour of Sioux agencies, decided the matter on 9 November. Watkins reported that wild bands were the chief cause of trouble, and he recommended an expedition "to send troops against them in the winter, the sooner the better, and whip them into subjection"(Utley 1977:247).

Runners were soon on their way to order wild bands to report to the agencies by 31 January 1876. If they failed to arrive, the army would be sent after them.

The stage was set for what would be remembered as the Sioux War of 1876-77. Countless books and articles have been written about the conflict and its most spectacular event, the destruction of Lt. Colonel George Custer and half of the 7th Cavalry regiment at the Battle of the Little Big Horn on 25 June 1876. The Black Hills were an issue in the war, but an equally important issue was the government's determination to force Indians to live at the agencies and begin the process of changing their lifestyle. Black Hills gold or not, this policy objective would have required military operations against the wild bands (Utley 1977; Andrist 1964; Priest 1942; Fritz 1963).

The army's strategy for forcing Indians out of Unceded Indian Territory was the three-pronged sweep of the territory in the late winter of 1876. Columns of infantry and cavalry from Forts Fetterman and Laramie, Wyoming, Fort Lincoln, Dakota, and Fort Ellis, Montana, would converge on the Powder River country about 1 March and the Indians would be trapped and driven to the agencies. Winter campaigning was a technique which the army had developed to cancel out the mobility of the plains tribes. Campaigns in late winter caught the Indians at the time when their horses were weakened from the lack of winter feed and villages were concentrated in protected areas along streams. Comparatively speaking, the Indians were easier to find and fight in late winter.

The 1876 campaign was not destined to be a winter one. General Crook and the Wyoming column moved north through bitter cold. On 17 March 1876, they fought an inconclusive battle along the Powder River with an Indian village composed mostly of Cheyenne, rather than Teton Sioux. The Powder River fight was the extent of winter campaigning. For a variety of reasons, the Dakota and Montana columns failed to get into the field in time (Utley 1977).

Thus the intended winter campaign turned into a summer one, and from the army's perspective, all the consequences were bad. As the grass greened with warmer weather of spring, life became easier and the Indians' horses became stronger. Agency Indians travelled west past the Black Hills to join the wild bands for summer hunts and ceremonies. The agency Indians swelled the numbers in the Powder River country, bringing with them quantities of ammunition and trade goods. The army ended up fighting on the Indians' terms.

The army's plan remained the same, but the three columns now were scheduled to take the field in mid-May. Again, delays plagued some of the columns and General Crook's Wyoming contingent, the last into the field, was not on the march until 29 May. Last to leave, Crook's unit was the first to fight. On 17 June, his command of almost 1,300 soldiers and Crow and Shoshone auxiliaries fought the Battle of the Rosebud along the headwaters of Rosebud Creek, just north of the Wyoming-Montana border. Following almost six hours of hard fighting, the Indian forces (probably about equal in number to Crook's) broke off the battle and retreated down the Rosebud to the north. Crook claimed he had won the Rosebud fight, since he was in possession of the battlefield at the end of the encounter. Casualties on both sides were approximately seventy-five. Crook's claims of victory notwithstanding, his command had many wounded and had fired thousands of rounds of ammunition. They withdrew to a base camp on Goose Creek, near present Sheridan, Wyoming, and did no further campaigning until 5 August. This meant that the practical effect of the Rosebud fight was to neutralize the Wyoming column. The Montana and Dakota columns would thus have to face the combined might of the Sioux and Cheyenne with no help from Crook (Utley 1977).

Events leading to Custer's defeat at the Battle of the Little Big Horn followed in rapid succession. Sources offer conflicting estimates of Indian strength, but there is consensus that the gathering along the Rosebud and the Little Big Horn represented the largest concentration of Indians at one point on the Northern Great Plains for many years. The Montana and Dakota columns joined forces along the Yellowstone at the mouth of Rosebud Creek in early June. Scouting done by both columns and Indian scouts convinced General Terry that the Indians were centered along the upper Rosebud and the Little Big Horn. A plan was developed which combined a circling column of cavalry commanded by Custer, and a blocking force of

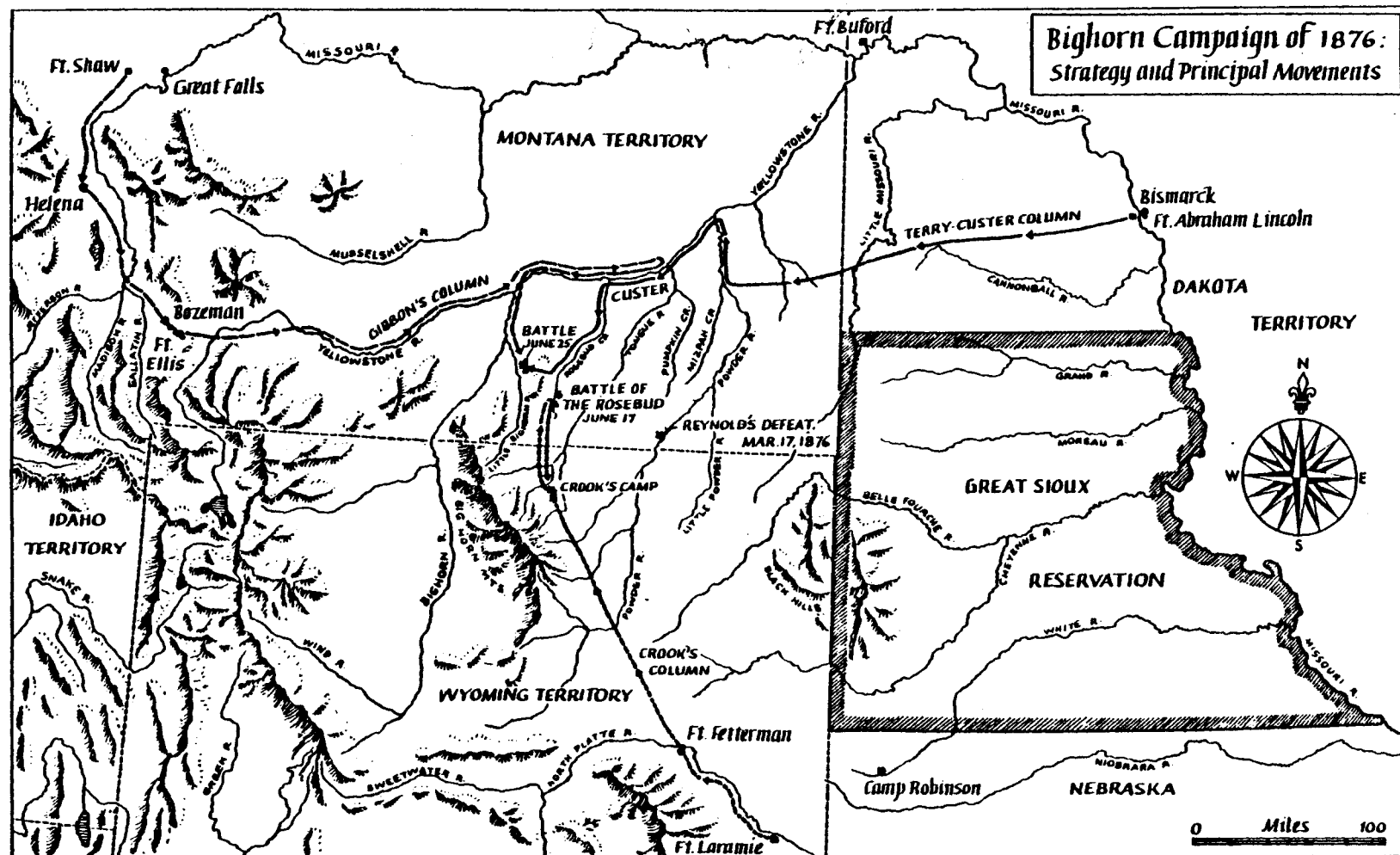


Fig. 9-14: Principal movements during the Big Horn Campaign of 1876 (Andrist 1964:250).

infantry led by General Terry and Colonel John Gibbon who commanded the Montana column. Custer's unit would move up to the headwaters of the Rosebud, cross to the Little Big Horn and move down that drainage. Terry and Gibbon would move up the Yellowstone and the Big Horn to the mouth of the Little Big Horn. The Indians would be trapped between the two. The operation was to begin on 22 June. By 26 June the two columns were expected to be within striking distance of one-another.

The operation was not executed according to plan. Custer chose not to follow the Rosebud to its headwaters. He crossed to the Little Big Horn on the night of 24 June. Convinced that his force had been seen and that the large Indian village along the Little Big Horn would scatter, Custer chose to attack the village at mid-day on 25 June, rather than waiting until the next day. Divided into several columns to cut off all avenues of Indian escape, the regiment was defeated by a superior Indian force. All five companies of cavalry with Custer were destroyed. Columns led by Captain Fredrick Benteen and Major Marcus Reno were surrounded on a barren hill-

top several miles south of the Custer battlefield until they were rescued by Terry and the infantry on 27 June. Aware of the infantry's approach, the Indians had scattered on the afternoon of 26 June. Left with no one to fight, the infantry could only bury the dead, which amounted to over one half of the regiment (Utley 1962; Stewart 1955).

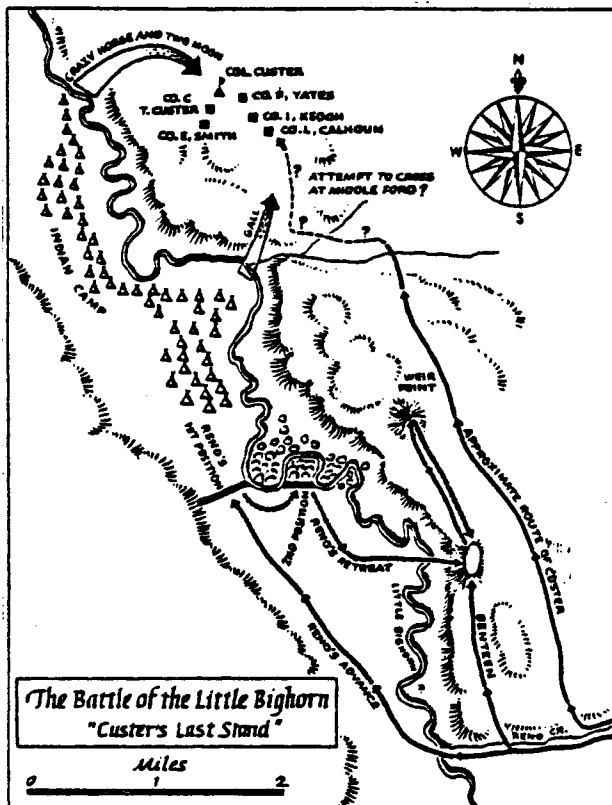


Fig. 9-15: Map of the Custer battle on the Little Big Horn (Andrist 1964: 290).

to the Black Hills and opponents of the Indian Bureau and army policies either changed their positions or remained silent. Troops were concentrated on the Northern Plains for a new offensive against the Sioux and Cheyenne. Congress approved an

The Indian success on the Little Big Horn was a brilliant battlefield victory. Viewed from the psychological and political perspectives, however, it compounded the Indians' problems. News of the defeat reached Bismarck on 5 July and soon filled front pages of newspapers across the nation. The psychological shock to the nation, then celebrating the centennial of the Declaration of Independence, was great. Supporters of Indians' rights

increase in army strength of 2,500 men. Consensus was that the war would continue until the Indians were totally defeated. The Black Hills question would be settled on the government's terms.

The second phase of the Sioux War resulted in no great battlefield victories for the army. Determination, hard campaigning and attrition were the chief ingredients in the government's victory. By early August, Terry and Crook, reinforced with troops from the south, began a campaign to find the Indians and defeat them. Searching along the Powder River and Yellowstone drainages in miserable wet weather, Crook and Terry found some Indian trails but few Indians. Exhausted, with only two days of supplies remaining, Crook decided on 5 September to march toward the Black Hills mining camps for resupply.

At the time, Crook was on the North Dakota-South Dakota border at the edge of present Harding County, South Dakota. Two days later, on the North Grand River, Crook decided to send a detachment of 150 men under Captain Anson Mills to bring supplies to the column. Reduced to eating their dying mounts (the soldiers would remember it as the "Horse-meat March"), the column was desperate (Utley 1977; Green 1982).

Mills was ordered to proceed to the Hills as rapidly as possible. Near Slim Buttes, on the morning of 8 September, Mills attacked an Indian village lying across his line of march. The Slim Buttes battle site lies just southwest of present Reva, South Dakota, west of the junction of South Dakota's highways 20 and 79.

The village was that of American Horse, an Oglala who was killed in the fight. The village was captured, along with some Indians, large quantities of dried meat and some items originally taken from the dead soldiers at the

Custer fight. The Slim Buttes victory was a small one, but any victory was welcome after the Battle of the Little Big Horn. Arrival of the rest of Crook's command thwarted an Indian

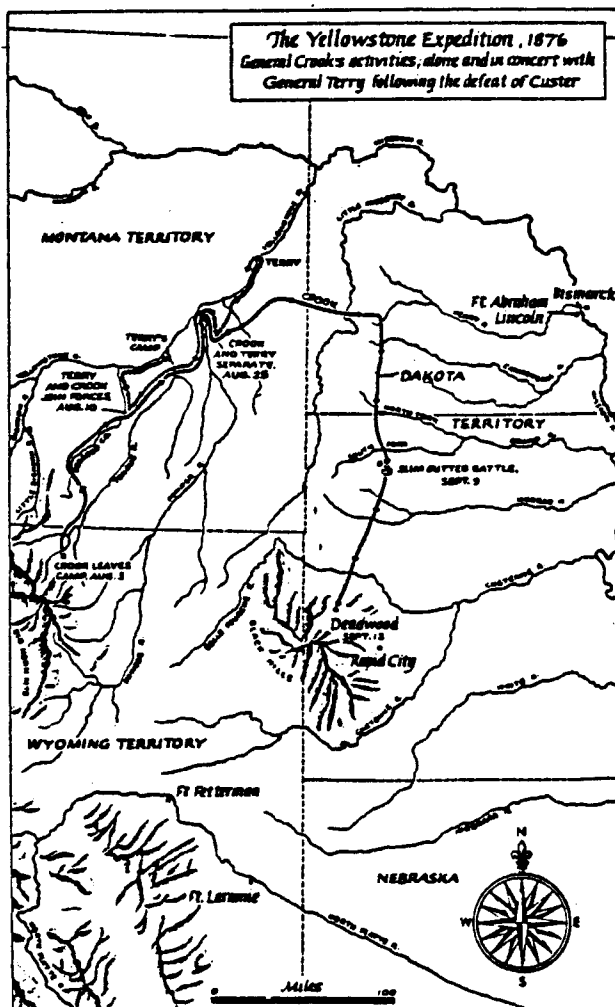


Fig. 9-16: Crook's column and their route to the Hills, via Slim Buttes (Andrist 1964:296).

counterattack. Crook continued to the Hills, following a route which passed just east of Deer's Ears Buttes, crossed the South Fork of the Moreau and camped on 12 September along Willow Creek, six miles above the Belle Fourche River. On the Belle Fourche, 13 September, a relief expedition reached the column from the Black Hills. Included in the supplies were a herd of fifty cattle and ox-drawn wagons. The wagons held bacon, flour, sugar, vegetables, crackers, butter and eggs. Along with the relief column was frontier photographer Stanley J. Morrow. Some of his photographs were later misidentified as having come from the Slim Buttes battlefield. These included one of a buckskin Indian lodge that had been captured at Slim Buttes and posed pictures of soldiers fighting over pieces of horsemeat. These photos had actually been staged near Crook City, where the expedition had entered the Black Hills.

In one last attempt to strike at the Indians, Major John J. Upham and 150 men from the Fifth Cavalry were sent to follow an Indian trail up the Belle Fourche River. Upham was gone for two days. One of his men became separated from the column and was killed by Indians, though Upham's force saw no action itself (Green 1982).

Crook received orders to proceed at once to Fort Laramie for a meeting with Sheridan. The soldiers in Crook's command were to be concentrated at Camp (later Fort) Robinson, where they could be used to control Indians at Red Cloud and Spotted Tail agencies. Crook paused at Crook City and Deadwood on 16 September for formal ceremonies. He responded to a petition from Deadwood citizens that requested a military post in the Black Hills by noting that the Black Hills were in General Terry's department. Crook arrived at Camp Robinson on 20 September and Fort Laramie shortly thereafter.

Colonel Wesley Merritt, left in command of the expedition, moved in a more leisurely fashion. Some of the seriously wounded remained with medical personnel in Crook City. On 18 September, Merritt moved the command to a camp in Centennial Park, above Deadwood. The route they took from Deadwood to Camp Robinson passed from Deadwood to Rapid City, back to Hill City and to Custer City on 23 September 1876. Supplies for the command had been stockpiled at Custer, and the unit remained there until 14 October. A brief reconnaissance was conducted down the South Fork of the Cheyenne River to the mouth of Rapid Creek on 14 October. After its return to Custer, Merritt led the command to Camp Robinson, where it was disbanded on 24 October (Green 1982).

The real cold weather campaigning in the Sioux War came during the winter of 1876-77. Colonel Ranald Mackenzie and six companies of the Fourth Cavalry were sent to Camp Robinson,

where they disarmed Indians at Red Cloud and Spotted Tail agencies. The reorganized Seventh Cavalry, under its Colonel, Samuel Sturgis, returned from detached service in the East, was sent to disarm Indians at Standing Rock and other points on the Missouri. Colonel Nelson A. Miles and the Fifth Infantry were left along the Yellowstone to spend the winter campaigning against Indians who tried to remain in the area. Miles built a temporary camp on the Yellowstone, at the mouth of the Tongue River, where they stockpiled supplies. Crook gathered another large command of almost 2,200 men at Fort Fetterman in November 1876, preparing to again conduct a winter campaign in the Powder River country. Both commands would be active. Operating with Crook's command, Mackenzie and 1,100 men attacked the village of Cheyenne chief Dull Knife while they camped on the Red Fork of the Powder River south of the Big Horns on 25 November. Most of the Cheyenne escaped from the encounter, but virtually all of their possessions were destroyed. Miserable and freezing, the Cheyennes reached Crazy Horse and his band three weeks later, where they were camping at the headwaters of the Tongue River. Concentrated in the regions around Camp Robinson and Forts Laramie and Fetterman, Crook's command isolated the agencies from the Powder River country and, eventually even accepted the surrender of Crazy Horse himself on 6 May 1877 at the Red Cloud Agency (Utley 1977; Andrist 1964).

Nelson Miles enjoyed an even busier winter. Miles was located at the center of the action. On 21 October 1876, he attacked the camps of Sitting Bull on Cedar Creek, driving them to the Yellowstone in a two-day fight covering forty miles. The Indians lost many of their possessions, but they avoided capture. This was only the beginning. When Indians gathered to harass his garrison, Miles moved up Tongue River to attack. On 7 and 8 January 1877, the Battle of Wolf Mountain was fought to a draw during a raging blizzard. The following spring Miles was back in the field. At the Muddy Creek fight on a tributary of the Rosebud on 7 May 1877, Miles' soldiers killed Sioux leaders Lane Deer and Iron Star, while destroying another larger village. At the same time, two forts, Fort Keogh at the mouth of the Tongue River, and Fort Custer at the confluence of the Big Horn and the Little Big Horn, were under construction. By the end of the summer of 1877 military posts dominated the Powder River country. Crazy Horse and many other Sioux and Cheyennes were confined at the agencies. Crazy Horse would be killed at Fort Robinson on 7 September 1877, and Sitting Bull, Gall and remaining holdouts had gone to the "Grandmother Country" (Canada) where the army could not follow (Utley 1977, Miles 1896; Andrist 1964).

Although the Black Hills had been a central issue in the Sioux War, there was very little organized military campaigning in the Hills proper. Fighting described above had ranged across a theatre of operations which included virtually the entire Northern Great Plains. Conflict between Indian and non-Indian in the Black Hills was largely a matter of skirmishes between travellers and Indians on the edge of the Hills and occasional Indian raids on outlying settlements. Civilians did almost all of the fighting and suffered the bulk of the casualties.

Although information on Indian losses in fighting around the Black Hills is limited, it appears that they suffered few fatalities in the combat.

The Custer 1874 expedition and the Gordon Party had very little contact with Indians. This condition rapidly changed as parties of miners converged on the Black Hills in the spring of 1875. Trails leading into Custer were frequently under Indian attack. Experiences like those of S.M. Booth, a Custer merchant, were common. Booth travelled with a party which went from Sidney to the Red Cloud Agency via an agency trail, and then continued north to Custer by Buffalo Gap. The Booth party slept by their guns. Signal fires were seen every night once they got as far as the South Fork of the Cheyenne River.

"The Indians came as near as they dared, but found us prepared. The next night we camped at Buffalo Gap where half a dozen battles have already been fought. Here it was my fortune to get a shot at a sneaking devil about half past twelve at night, as he came crawling on his hands and knees toward the picket pins where our horses were lariated ...

About noon (the next day) we came upon three wagons that had been captured by Indians. Everything in them that was not carried off was destroyed, coffee mills broken, flour scattered about, harness cut into small pieces, wagon shot full of balls, etc. About a half a mile farther on we came to another place where there had been a battle — blood on the stones, any amount of cartridge shells and other signs that showed we were close to business. That night we all stood with our guns in our hands, and the next day we drove into Custer City, sixteen days from Sidney" (Sundstrom 1977:28).

The sight of miners and businesses under construction reassured Booth. Virtually without sleep since the party crossed the Cheyenne, he decided to take a nap.

"How long I slept I do not know, but I do know that I was aroused by somebody falling over the coffee pots and frying pans rattling, men, women and children screaming, guns rattling, and last, but not least, about a dozen Indians galloping across the valley, yelling like mad. The next instant, and before we could get our guns and be ready to shoot, they had dashed into the timber on the other side of the valley and were gone, taking seven head of horses with them"(ibid:28).

Travellers to the placers of the southern and central Black Hills could expect adventures similar to those of Booth in the spring and summer of 1875, if they were lucky. Those less fortunate failed to reach the Hills. Indians, however, were only one of the many obstacles to be overcome. In some respects, the Indians and the U.S. Army were allies. Both were committed to the policy of keeping trespassers out of the Black Hills. The first Gordon Party eluded the army on its way into the Hills, but a second expedition led by Gordon did not. In April of 1875, troops under Captains Mark Walker and Even Mills burned forty wagons in northwestern Nebraska that belonged to a group of 170 miners making up a second Gordon Party (Parker 1972).

When it became apparent that occasional patrols to arrest specific parties of miners would not succeed, the army decided on a more thorough strategy. In July of 1875, General George Crook set out for the Hills with a large force to sweep the Hills and expell as many illegal miners as possible. Crook established a base camp (Camp Crook) on Rapid Creek, where Pactola Dam is now located, and sent patrols to contact as many miners as they could. On 29 July 1875, Crook gathered together the miners that they had found, and they were read a proclamation expressing wishes of President Grant:

"He [the President] hopes that the good sense and law-abiding disposition of the miners will prompt them to obey this order without compelling a resort to force. It is suggested that the miners now in the hills assemble at the military post about to be established at Camp Harney, near the stockade on French Creek, on or about the 10th day of August; that they then and there hold a meeting and take such steps as may seem best to them by organization and drafting of proper resolutions to secure to each, when the country shall have been opened, the benefit of his discovery and the labor he has already expended" (Kingsbury 1915, I:903-10).

On 10 August, 169 miners gathered and organized Custer City. Town lots were drawn and a committee of six men were chosen to remain in the country to protect miners' property left behind. The next day the remaining miners left the Hills for Fort Laramie under army escort.

Crook left Captain Edwin Pollock in command of Camp Harney, and from August to November of 1875, Pollock had partols almost constantly ranging the Hills searching for trespassers. With three companies of cavalry and nine of infantry, Pollock's force was large enough to enjoy considerable

success. Miners captured were confined to a "bull pen" in Custer. Civil War veterans who had been incarcerated at the notorious Andersonville Prison said they would prefer it to Pollock's accommodations. Try as he might, Pollock's efforts were still not extensive enough to keep trespassers out of the Hills. After the failure of the Allison Commission negotiations, when the White House meetings decided a change in Indian policy regarding the Black Hills, Pollock's forces were withdrawn from the Hills in November. The army and the Indian Bureau continued to issue orders against mining in the Hills and refused to escort supply trains into the area (Parker 1972).

The spring of 1876 brought a renewal of violence around the Black Hills. The shift of mining activity to the northern Hills widened the theat of conflict. Trails to the northern Hills placers came from all directions and encounters between Indians and travellers were common. Settlers at the Rapid City townsite enjoyed a lively spring, and their experiences were typical of other settlements on the edge of the Hills. After its founding in late February of 1876, Rapid City was a focus for frequent Indian raids. On 14 March 1876, an Indian attack resulted in the loss of most of the settlers livestock. A party attempting to lay out a wagon road to Custer City on 5 April was surprised on Battle Creek. Some of the stock, and all of the wagons were lost. A townsite on Rapid Creek, just two miles above Rapid City, had to be abandoned by promoters because it was vulnerable to Indian incursions. Another site, chosen on Spring Creek south of Rapid City, was also abandoned after one of the party was killed in an Indian attack. On 6 April, a man named Herman was killed on Rapid Creek. A week later, a Captain Dodge died in an attack on a wagon train from Bismarck along Spring Creek, and four other travellers were killed the next day along the Fort Pierre Trail. As raids and incidents along trails continued, Rapid City's population fell from roughly two hundred down to twenty. Those remaining built a log blockhouse at the corner of Rapid and Fifth streets, and during the summer of 1876, they complained constantly about the Indians to anyone who would listen (Andreas 1884:120).

The founders of Spearfish and other communities in the northern Black Hills had similar experiences. Following its creation on 29 May 1876, the Spearfish townsite was beset with Indian incidents. Rumors of Indian raids and actual attacks were frequent by early August. On 19 August, Charles Nolin, an express rider carrying mail from Sidney through Rapid City to Deadwood, was killed near the location of the future Sturgis townsite. On 20 August, there was a raid by a large band of Indians on the livestock herd pastured at Burton Stockade on Folo Creek in Centennial Prairie. Four men were killed: Preacher Henry Weston Smith, Charles Holland, Isaac Brown and Charles Mason. On 22 August, John Urganhart and George W. Jones were killed near Black Hawk on the Crook City-Rapid City road. About 1 September, a man named Hayword was killed on the road between Spearfish and the Hay Creek coal beds (near present Aladdin, Wyoming). A weathered monument

stands at the Saint Onge rodeo grounds marking the spot where Jimmy Iron was killed 20 September while guarding the hay crew working False Bottom Creek. Early in September, the Spearfish Townsite Company decided to build a stockade, located in what is now downtown Spearfish. This was an interim solution at best. Only the permanent stationing of troops in the Black Hills and the extinguishing the Indian claim seemed to offer permanent resolution (Szalay 1972).

Conclusion of the Black Hills Agreement in the fall of 1876 paved the way for permanent settlement of ownership questions in the Black Hills, allowed for the stationing of troops in the Hills, excluded the Indian people, and created the the present longstanding controversy. The basis for the agreement was the Congressional passage of the annual Indian Appropriation Act which became law on 15 August 1876. Passed in the emotion-charged atmosphere following Custer's defeat on the Little Big Horn, the act stated that no further rations would be issued to the Sioux at the agencies until they had relinquished all claims to the unceded territory and to the Black Hills. An eight-member commission headed by former Commissioner of Indian Affairs George W. Manypenny visited the Red Cloud, Spotted Tail and Missouri River agencies during September and October of 1876. Although prominent chiefs such as Spotted Tail and Red Cloud signed the agreement carried by the commission, the number of signatures represented nowhere near the three-fourths adult male members of the tribe stipulated in the 1868 Fort Laramie Treaty for further land cessions (Kingsbury 1915, I:947-54).

The Black Hills agreement spawned a controversy which has lasted for more than a century. The main Indian concessions in the agreement were the territory between 103° and the forks of the Cheyenne River on the east, 104° on the west 43° south and 46° north, with an added section of approximately 97,000 acres south of the Cannonball River in present North Dakota. This strip amounted to what is now the western end of the state of South Dakota. Since the Wyoming-Dakota border would not be surveyed until the Reeves expedition of 1877, the 104° boundary actually crossed the western edge of the Black Hills, continuing the confused jurisdiction in the Hills which began with the creation of Wyoming Territory in 1868. All Indian claims to unceded Indian country were forfeited in the 1876 Agreement. Thus the Great Sioux Reservation became the strip of what would be western South Dakota, stretching from the Missouri River to 103°. In addition, the Indians were expected to allow rights-of-way for three wagon roads to the Black Hills across the Great Sioux Reservation. Annuities would be delivered to agencies along the Missouri River, and a delegation of five chiefs from each band would, without delay, be sent to the

Indian Territory to select a permanent home for their peoples. Provisions were also made for sending trained craftsmen, such as blacksmiths and carpenters, to begin teaching the Indians the skills of civilization. Those Indians choosing to do so could claim allotments of their own land.

The 1876 Agreement was intended to cede the Black Hills to the government, but the agreement had other important characteristics. The Indians would begin to develop the skills of other civilized Americans, become individual landholders, and perhaps even move to Indian Territory. There was no actual payment to the Indians, except for rations and services stipulated in the agreement or continued from the 1868 Treaty. Rations would continue "until the Indians are able to support themselves". Nowhere was the actual value of the Black Hills considered in the 1876 Agreement.

The process of securing the Black Hills Agreement proceeded at the agencies while the war along the Powder River and the Yellowstone continued in the fall of 1876. The commission visited seven agencies: Spotted Tail, Nebraska (23 Sep); Red Cloud, Nebraska (26 Sep); Standing Rock, Dakota (11 Oct); Cheyenne River, Dakota (16 Oct); Crow Creek, Dakota (21 Oct); Lower Brule, Dakota (24 Oct); and Santee, Nebraska (27 Oct). Following a final meeting in Yankton on 29 October 1876, the commission journeyed to Washington to submit its report to the opening of Congress in December. The Black Hills Agreement was subsequently signed into law by President Grant on 28 February 1877 (Kingsbury 1915, I:947-53).

As far as miners and others on the busy Black Hills frontier were concerned, the Black Hills Agreement ended the issue once and for all. In reality, the Black Hills had always been open for development — now the Hills were "legally" open as well. Some Indian people viewed the issue in a much different light. Eventually a complex controversy would develop over what came to be known as the Black Hills Claim. The claim question was really three related questions: 1) did the United States acquire title to the Black Hills in a legal fashion; 2) was compensation to the Indians suitable; and 3) had Indian claims for justice been adequately considered? In the opinion of some legal and historical scholars, all three of these questions remain unresolved to this time (Parker 1984).

The claim issue first emerged in association with the corridor question in the early 1880's. As noted elsewhere, a major obstacle to railroad building from the Missouri River to the Black Hills was Indian opposition to railroad incursion on the Great Sioux Reservation. The 1876 Agreement provided for wagon roads across the reservation but said nothing about railroads. In the early 1880's, Black Hills promoters demanded a corridor for railroad construction across the reservation. An 1884 agreement was proposed, but Congress refused to impose it on the Indians when it appeared that a majority of the Indians were opposed. Several commissioners argued that the structure

of the 1876 Agreement nullified the three-fourths clause in the earlier Fort Laramie Treaty. A subsequent 1889 Agreement opening the corridor and ceding additional reservation land was accepted by three-fourths of the adult males. This agreement specifically confirmed the cessions and concessions made in the 1876 Agreement and restored to the public domain all within the corridor between the Cheyenne and White Rivers and outside the boundaries of new smaller reservations (Kingsbury 1915, I:1283-91).

Indian claims that the Hills had been stolen from them in violation of the 1868 Treaty continued into the Twentieth Century. In 1920, Congress passed an act authorizing the Sioux to submit claims to the Court of Claims. The tribe, speaking through its attorney Ralph Case, filed a claim in 1923. After numerous delays, the claim was rejected totally in 1942. The next chapter began in 1946 when an act of Congress established the Indian Claims Commission. The commission was authorized to compensate tribes for land and other property taken without adequate compensation, provided that deductions be made for payments and services provided the tribe. Another claim was submitted to the Indian Claims Commission in 1951. The claim was that the Sioux received inadequate compensation for the Black Hills. The claims commission again rejected the claim. This decision was appealed to the Court of Claims, which upheld the rejection on 7 November 1956. The court reasoned that the Black Hills were taken from the Sioux by the Act of Congress of 1877, not by the 1876 Agreement. The court's position was that treaties with Indians were no different than other public laws, and Congress could enact contrary legislation when it felt such would be in the best interest of the United States. The court's opinion also noted that the Hills could have been taken with no agreement. The only requirement was that property taken be replaced by adequate compensation. The court estimated that approximately \$57,000,000 had been paid in various goods and services up to 1953, and this was held to be adequate payment for the Black Hills. The Sioux hired new legal counsel and tried again. In 1958, responding to the plea that new evidence for the tribe's case might be available, the Court of Claims vacated its earlier decisions and remanded the case to the Claims Commission (Parker 1984).

The Sioux, being anxious to avoid another decision that they had already received adequate compensation, supported an addition to the Appropriations Act for the Court of Claims during the 1975 fiscal year. The stipulation stated that the commission could not consider expenditures for food rations or annuities as payments for property taken. The Claims Commission, considering the new procedures, decided that the Sioux were owed \$17,000,000 for the Black Hills plus five percent interest since the taking of the Hills. This time the government appealed to the Court of Claims. The government's appeal was based on

the concept of res judicata — the legal principle that the issue had been decided already, and should not again be decided. The Court of Claims then decided in favor of the initial award of \$17,000,000, but against the concept of awarding five percent interest (the interest would have amounted to much more than the actual land payment). Payment of interest implied that a moral wrong had been done, and the court concluded this issue was beyond its jurisdiction. Congress returned to the issue again in 1978, passing an act stating that the Court of Claims could ignore the government's res judicata argument in the Sioux claim. The court heard the case again in 1979 and awarded the Sioux \$105,000,000. The award was based on the belief that Congress in 1876 and 1877 had given insufficient consideration to the question of whether the compensation provided in the 1876 Agreement was adequate to cover the value of the Black Hills.

The 1979 Court of Claims award left the question unresolved. Included in the award of \$105,000,000 was the stipulation that all claims beyond the monetary consideration were denied. The government appealed the award, and in the U.S. vs. Sioux Nation of Indians et al, decided by the U.S. Supreme Court on 30 June 1980, the compensation was upheld.

Some members of the tribe refused to accept the compensation and argued a point which had not previously appeared in all the litigation and Congressional action taken since 1923. For the first time, the demand emerged that the Indians should have the Black Hills returned, since the taking of them was illegal (this position was not actually new, as it had been frequently talked about, but never included in legislation or litigation). A suit was filed to this effect in Federal District Court for Western South Dakota. On 11 September 1980, the suit was rejected. With the Court of Claims award unaccepted, and the possibility of further suits in federal court or Congressional legislation, the issue of the Black Hills claim (or claims) appears to be far from settled (Parker 1984).

FORTS AND INDIANS

Whether it finally resolved the ownership of the Black Hills or not, the 1876 Agreement did open the way for a more permanent U.S. military presence in the Black Hills. As indicated above, great pressure to protect Black Hills communities was being brought to bear by the summer of 1876. The idea of a post in the Black Hills was almost as old as interest in the Hills expressed by the advancing frontier. Lieutenant G.K. Warren had recommended a post in the Hills in his 1857 expedition report (Warren 1858), suggesting a site near Bear Butte.

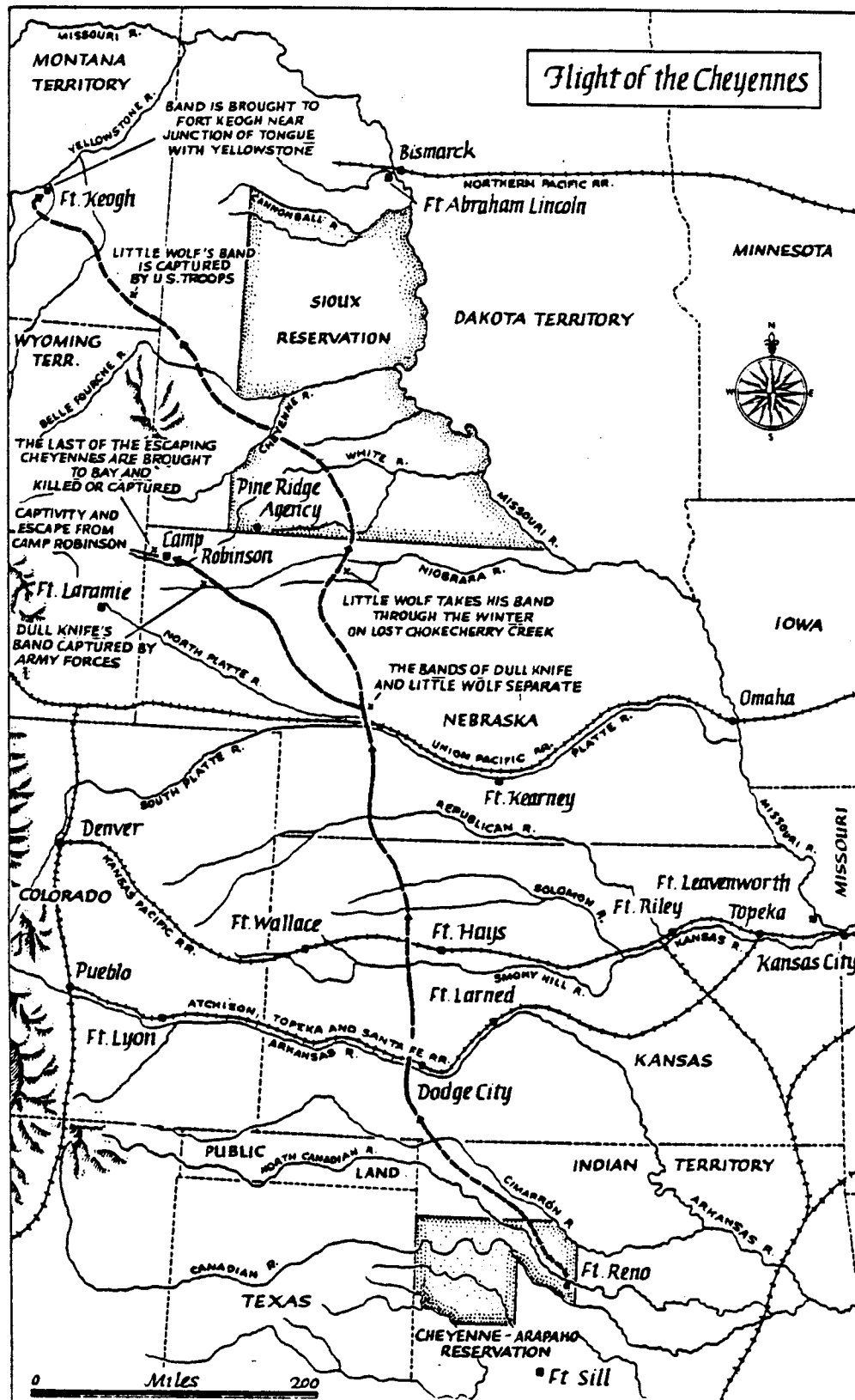


Fig. 9-17: The Dull Knife and Little Wolf Cheyenne escape routes from Oklahoma. (Andrist 1964:339)

The Dakota Territorial Assembly petitioned Congress for a Black Hills military post in 1873. It was argued that the Hills had become the center of hostile Indian activity on the Northern Great Plains. General Sheridan's dispatch of the 1874 Black Hills expedition represented a continuation of the interest in established military presence in the Black Hills (South Dakota Historical Collections 1916, VIII: 540; Parker 1972).

As the army's philosophy in the Black Hills shifted from eviction to protection of Whites. Military posts began to be established in areas liable to attack. In the summer of 1876, continued Indian raids along the Cheyenne - Custer and Deadwood trail and stage route through Red Canyon near Edgemont made this a key point. The army's response was the construction of Camp Collier at the mouth of Red Canyon. The fort was well-protected, enclosed by walls about seventy-five feet square. A stage station and small community of tents grew up around the fort, including an establishment known as Harlow's Eating House. The post was garrisoned by a combined force of infantry and cavalry, and continued to exist until the Red Canyon route was abandoned as too dangerous in 1878. By 1879, Camp Collier and its surrounding community had died (Parker 1972).

Camp Bradley, located near the foot of Inyan Kara Mountain in Wyoming, was similar to Camp Collier in some respects. Apparently consisting of a few small cabins and tents, it protected the western edge of the Black Hills and travellers between the Montana gold fields and the Black Hills. The camp was abandoned in 1877 when the Sioux War ended (Parker 1972).

The Black Hills military post with the longest history was the one the army had wanted all along. The end of the Sioux War in 1877 failed to quiet the apprehensions of Black Hills residents. As late as 1878, travellers to the Hills continued to fear Indian attacks. Stagecoach trips to the Black Hills along the Deadwood to Bismarck trail were accompanied by armed bands of outriders. The Deadwood - Cheyenne stage route was relocated away from Red Canyon. During his trip to the Black Hills in July of 1878, General Sheridan examined locations for permanent military posts. Already in the Hills were several infantry companies located at a temporary post along Spring Creek, just north of Bear Butte. This camp, established 1 July 1878, was named Camp Sturgis, in honor of Lieutenant J.G. Sturgis who had been killed with Custer at the Battle of the Little Big Horn. Sturgis' father, Colonel Samuel Sturgis, was the commander of the Seventh Cavalry. Sheridan considered a number of sites, in addition to locations near Bear Butte, and finally settled on the site that would become Fort Meade (Krause 1948).



Fig. 9-18: One of the many quarters at Fort Meade, now converted into the South Dakota Archaeological Research Center.

Sheridan chose a point near the pass (water gap) where Bear Butte Creek left the Black Hills Hogback and flowed out onto the prairie. The location was several miles southwest of Bear Butte. The new location was established 28 August 1878 by recently arrived units of the Seventh Cavalry. The new post was temporarily named Camp Ruhlen, named for Lieutenant George Ruhlen, a quartermaster responsible for initial construction on the site. Camp Ruhlen was originally a log cabin post with soldiers of the Seventh Cavalry and First Infantry doing the construction. This

activity ended for the 1878 season when most of the camp's garrison was sent to join in the pursuit of Cheyennes who had left their reservation in Oklahoma (Krause 1948).

The Camp Ruhlen garrison was destined to play a minor role in what Mari Sandoz would later call Cheyenne Autumn (Sandoz 1953). The origins of the Cheyenne crisis of 1878-79 lay in the decision to send the Northern Cheyenne to a reservation in Oklahoma Indian Territory at the end of the Sioux War in 1877. From their arrival in the south in 1877 until September of 1878, the Cheyenne experienced extreme hardship. A combination of disease (e.g. malaria), starvation and cultural breakdown brought them to a point of despair. Chiefs Little Wolf and Dull Knife asked to be allowed to return north, but the request was denied. As a result, on 9 September 1878, they escaped from their guarded camp near Fort Reno and turned toward the Northern Plains. Their route required them to cross three railroads and pass dozens of homesteads and ranches. Along the way, they were required to steal horses and cattle to survive. The northward march included ten encounters with civilians or soldiers. A serious attempt by the army to patrol the entire route of the Union Pacific in western Nebraska and catch the Indians when they crossed the railroad failed. When this happened, garrisons from the northern posts were ordered into the field to intercept the Cheyenne

The Cheyenne divided into two bands after they crossed the Union Pacific. One, led by Dull Knife, was captured near present Chadron, Nebraska, and taken to Fort Robinson. On 9 January 1879, after being confined to cold barracks without food, water or firewood, Dull Knife's band made a desperate attempt to escape. On that night of 9 January, the "Cheyenne Outbreak" took place, but due to a full moon, soldiers were able to kill or wound a majority of the escapees that night. Over the next thirteen days, the survivors kept up a running skirmish, heading ever west. But on 21 January, a final battle

took place, with few survivors, mostly women and children. Dull Knife, his wife, son, daughter-in-law, grandchild, and a youth named Red Bird, had turned off from the main group on the night of the outbreak, and after nearly starving, made their way to the Pine Ridge Reservation (Powell 1969; Grinnell 1915).

Ultimately, the government regretted its decision to try and force the Cheyenne onto the Oklahoma reservation, and allowed the survivors to remain to the north. However, the guilt for the entire incident was never assumed by the military (U.S. Congress 1880).

Meanwhile, the other band, led by Little Wolf, spent the winter in the Nebraska Sandhills south of present Valentine, remaining undetected throughout that time despite attempts by many to locate them. In March 1897, they pushed on toward Montana, passing just east and north of the Black Hills. Patrols from all posts in the region were actively searching for Little Wolf's band and finally they were intercepted by a patrol from Fort Keogh on 25 March along the Little Missouri River in southeastern Montana. By this time, public sympathies were so strong (the Dull Knife tragedy was now nationally known) that the Cheyenne were allowed to stay in Montana, and a reservation was established for them along the Tongue River (Sandoz 1953; Powell 1969; Andrist 1964; Utley 1977; Cassells and Agenbroad 1981).

The episode of the Cheyenne flight from Oklahoma and the presence of Indian reservations near the Black Hills underscored the need for a permanent military post. On 18 December 1878, the area surrounding Camp Ruhlan was declared a military reservation. The original property had an area of twelve square miles and consisted of a main reservation of 13,127 acres around the post, and a water and timber reserve in the Black Hills five miles southwest consisting of 5,280 acres, more or less. The new post was named Fort Meade on 31 December 1878, honoring the Civil War hero General George G. Meade (Krause 1948).

Construction at the post continued through the remainder of the 1870's and the early 1880's. By 1882, semipermanent log quarters were completed, and more permanent and elaborate frame structures were under construction. The post included a full set of barracks, officers quarters and stables. Non-commissioned officers quarters stood to the north of the regular barracks and parade grounds. Units stationed at Fort Meade during this era included the First Infantry, the Twenty-Fifth Infantry (a Black regiment) and the Seventh Cavalry. Most of the members of the Seventh Cavalry who survived the Custer fight served at Fort Meade. Major Marcus Reno was Post

Commander for a brief period in 1879, and Commanche, Captain Miles Keogh's horse and the only survivor following the defeat of Custer's command, enjoyed part of his retirement at Fort Meade (Krause 1948; Utley 1977; Odell 1942).

Fort Meade and the Black Hills had little direct involvement in the Messiah Movement and events which led to the Wounded Knee Massacre on 29 December 1890, near the Pine Ridge Agency in Shannon County, South Dakota. Residents of the Black Hills watched as followers of the Paiute prophet Wovoka practiced their ceremonies and tensions grew during the summer and fall of 1890. Called "ghost dancing", the ceremonies were based on Wovoka's teachings that the return of Christ to earth would occur soon, and non-Indians and their culture would disappear. Indian Bureau decisions to disperse the ceremonial camps and restore order brought the army to the reservation. Troops from Fort Meade were sent to the Cheyenne River Reservation and were used to patrol the northern edges of the Black Hills. Militia units from Rapid City and other Hills communities guarded southern approaches to the Hills. Following the shooting of Sitting Bull and the flight of his followers from Standing Rock in December of 1890, tensions in Hills communities and fears of Indian attacks increased.



Fig. 9-19: Members of the Seventh Cavalry who had been part of the Wounded Knee incident (Smithsonian Institution).

The Indians from Sitting Bull's camp joined the band led by Big Foot on the Cheyenne River, and they fled to the Badlands to link with groups from Pine Ridge believed to be conducting ceremonies there. This group, intercepted by units of the Seventh Cavalry at Porcupine Butte on 28 December 1890, would be the victims of the tragedy at Wounded Knee the following day. Black

Hills communities received the news of Wounded Knee favorably, believing that Indian losses would demonstrate the futility of further resistance to government Indian policies. Several months of stress followed, as some Indians held out against efforts to

force them out of "The Stronghold" on Cuny Table in the Badlands. Even though they had played a limited role in the events of the Wounded Knee crisis, Black Hills residents and Fort Meade personnel believed that the threat of Indian resistance to further development of the region had been ended once and for all (Andrist 1964; Mooney 1895; Seymour 1981; Vestal 1932; Utley 1977).

In 1896, an extensive improvements program began at Fort Meade. A number of additional brick and stone buildings were constructed. At the end of this effort, the post consisted of twenty-five sets of officer's quarters, four double sets of barracks, two single sets of barracks, quartermaster's storehouse, commissary, band quarters, post exchange, ten stables, granary and hospital. Units stationed at the post from 1890 to 1914 included the First, Fourth, Sixth, Twelveth, and Thirteenth Cavalry, and the Twenty-fifth Infantry. In one of the last U.S. Army operations against Indian people, units of the Sixth Cavalry from Fort Meade intercepted Ute Indians in 1906 in northern Wyoming. The Utes were dissatisfied with conditions on their Colorado reservation and were attempting to reach Canada.

In 1914, regular army units were withdrawn from the post and, except for brief occupations by the National Guard, it was vacant until 1924, when the Fourth Cavalry was stationed at the Fort. For most of its remaining time as an active military post, Fort Meade was home for the Fourth Cavalry (Krause 1948).

World War II brought the end of Fort Meade's military role. Horse cavalry units were rapidly becoming anachronisms in warfare dominated by tanks and aircraft. The Fourth Cavalry left the Fort with horses for maneuvers in Louisiana in the summer of 1942, and returned to Fort Meade without them. On 18 January 1943, the Fourth Cavalry left for good. The glider troops of the Eighty-eighth Infantry trained there from February to November of 1943. They were the last army unit to leave the Fort. The War Department recommended conversion of Fort Meade to a Veterans Administration Hospital in 1944. During the interim, 600 German prisoners-of-war were interned there and used as agricultural labor in beet fields of the Belle Fourche Irrigation District. On 6 April 1945, the Fort was officially transferred to the Veterans Administration, and the last German prisoners were transferred in 1946. Since that time, Fort Meade has functioned as a hospital facility for the V.A. (Krause 1948). With Ft. Meade becoming V.A. property, one of the last vestiges of frontier conflict passed from the Black Hills scene. Honored as a platform guest at the transfer ceremonies was Sergeant C.E. Windolph of Lead, who had won the Congressional Medal of Honor as part of Major Reno's command at the Battle of the Little Big Horn, and who served at Fort Meade. Windolph died in 1950, within weeks of the death of traditional Oglala holy man, Black Elk.

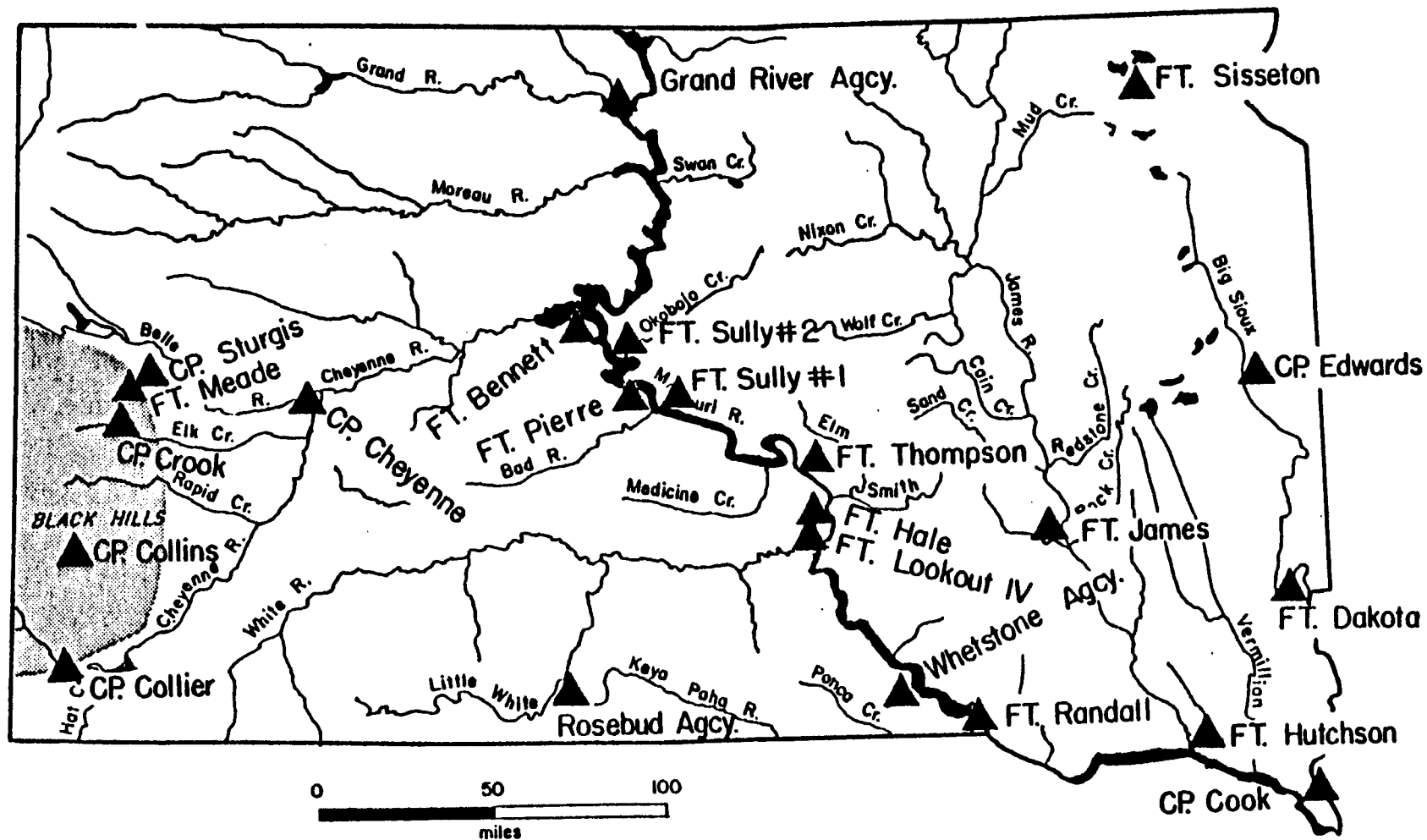


Fig. 9-20: Military forts in South Dakota
(Cassells and Agenbroad 1981).

The Veterans Administration did not use all of the buildings at Fort Meade, and following the creation of the State Archaeologist position by the state legislature in 1973, a permanent location for the office was sought. The first State Archaeologist, J. Steve Sigstad, eventually was able to acquire the use of four buildings at Fort Meade in 1974. In 1977, the next State Archaeologist, Bob Alex, consolidated the holdings into a single building (Helgevold 1981:69-71). The property there is known as the South Dakota Archaeological Research Center, and houses a number of archaeological collections, site files, and a staff of professionals.

WYOMING AND SOUTH DAKOTA STATE RECOGNITION

Because the Black Hills National Forest lies in two states, the history of political organization of the Forest area is two separate but related stories. Within less than a decade the Black Hills region was separated by the creation of original Dakota Territory in 1861, united in the creation of a new Dakota, following the establishment of Montana Territory in 1864 and separated again when Wyoming Territory was carved in part from Dakota Territory in 1868.

The movement to create Dakota Territory resulted from the Yankton Treaty of 1858, and efforts of some Dakota promoters and land speculators. The Minnesota statehood bill passed by Congress in 1857 pushed the western boundary of Minnesota to within a few miles of the Big Sioux River. The trading partnership of D.M. Frost and John B.S. Todd operated several licensed Indian trading posts along the Missouri River above Sioux City. They were aware that the Yanktons living along the river faced hard times as the buffalo and other game disappeared from the region. The line of settlements moving west across Minnesota would soon make the area between the Big Sioux and the Missouri a potential target for settlers and townsite promoters.

Todd knew that some Yankton leaders, such as Struck by the Ree (or "Old Strike"), realized that the old ways could not continue, and that a treaty with the government providing annuities could benefit the Indians as shortages of game continued. Todd managed to gather a delegation of fourteen Indian leaders for a trip to Washington. On 19 April 1858, the Yankton Treaty was signed. This treaty ceded to the U.S. government a triangle of land bordered by the Big Sioux River on the east, the Missouri River on the south and west, and a line running roughly northeast from Fort Pierre to Lake Kampeska. The Yankton would receive both \$1,600,000 in annuities over a fifty-year period, and a reservation of 400,000 acres along the east bank of the Missouri in what is now Charles Mix County, South Dakota (Schell 1968).

The opening of Dakota lands to possible settlement created the prospect of a need for political organization in the area. Since the treaty barred entry by settlers until a year after its ratification by the Senate on 17 February 1859, there were several incidents in which soldiers from Fort Randall evicted settlers. This brought about increased pressure for creation of a territorial government to protect the interests of settlers. Townsite companies in St. Paul, Minnesota and Dubuque, Iowa had selected townsites inside the ceded area and were promoting them. These companies began lobbying efforts in Washington to create a territorial government which they could control. Seeing these companies as dangerous rivals, Frost and Todd undertook their own Washington lobbying efforts. Todd, cousin to Mary Todd Lincoln, was able to exploit his political connections in Washington. James Buchanan signed the bill creating Dakota Territory on 2 March 1861. Other factors in Todd's success may have been the confusion prevailing in Congress as southern states left the Union on the eve of the Civil War, and the linking of the Dakota bill to the Nevada Territory bill. The rapid development of the Comstock Lode gold fields made the creation of territorial government in Nevada imperative (Lamar 1956; Schell 1968).

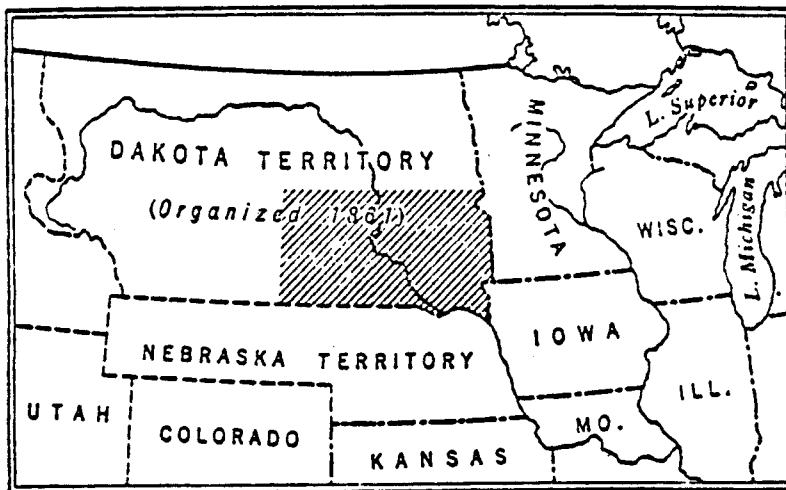


Fig 9-21: Dakota Territory, created in 1861 (Schell 1968:75).

Newly created Dakota stretched across vast distances far from the new settlements along the Big Sioux and Missouri Rivers. As defined in the Act of 2 March 1861, Dakota Territory was carved out of Nebraska Territory and the western section of what had been Minnesota Territory prior to Minnesota statehood in 1858. Since 1858, the land lying between

the Red River of the North and the Missouri River had been presumed to be attached to Nebraska. Nebraska stretched from the Kansas border to the Canadian border and included all the land between the Missouri River and the Continental Divide. The Dakota Territory Act simply took all the land in Nebraska Territory lying north of the Forty-Third Parallel from the Keya Paha River to the Continental Divide and designated it Dakota Territory. Included in this area were all of the future states of North and South Dakota, the parts of Montana and Wyoming east of the Continental Divide, and a small portion of Nebraska. The Black Hills became an island located roughly in the center

of a vast Dakota Territory, far removed from the new settlement of Yankton that had been designated as territorial capital in 1861 (Olson 1966; Schell 1968).

The life of this first vast Dakota was short. Gold discoveries in what was to become Montana Territory brought rapid changes to western Dakota. James and Granville Stuart found gold in the Deer Lodge Valley in 1858. By 1862, they were struggling to exploit their find and other miners were attracted to the area. Major gold strikes on Grasshopper Creek, a tributary to the Beaverhead River, led to the founding of a mining camp named Bannack and the Montana gold rush was on. Soon Montana settlements included Virginia City, Nevada City, Circle City, Central City, and by 1864, Last Chance Gulch and Helena. Confusion and demands for organized government quickly followed.

In 1863, the Lincoln administration dispatched Sidney Edgerton, Chief Justice of Idaho Territory, to Bannack. Edgerton realized that the Montana gold camps could not be effectively governed from west of the Bitterroot Mountains and he recommended the creation of a separate territorial government for the gold fields. Since Yankton was more than a thousand miles away, government from that direction did not seem possible. Edgerton journeyed to Washington, lobbying for the new territory. His efforts were successful, and the Montana Territory was created on 26 May 1864. Edgerton soon became governor of the new territory (Toole 1959).

The creation of Montana changed the shape of Dakota Territory. The section of Dakota west of 104° and north of 45° was detached and given to Montana. This left an oddly-shaped Dakota which included all of the present states of North and South Dakota, Wyoming east of the Continental Divide, and a small portion of Nebraska. As the Civil War ended, the only settled portions of the territory were the communities along the Big Sioux and Missouri Rivers, Red River settlements near the Canadian border at Pembina, the Missouri River military posts at Fort Randall and Fort Sully, and other military posts and scattered settlements along the Oregon and other overland trails across what would become Wyoming. The frontier remained far from the Black Hills.

The Pacific railroad project would bring another change in the shape of Dakota Territory and place the Black Hills along a territorial boundary. Much of the story involving the creation of Wyoming Territory is tied to the building of the Union Pacific Railroad. Serious proposals to build a trans-continental railroad had been made as early as 1845. Asa Whitney, a New York merchant who had made a fortune in the China trade, proposed that the federal government sell him 77,952,000 acres of land for sixteen cents per acre. Whitney would then begin building a railroad and selling land to

settlers along the route. With the profits of land sales, he would build more railroad, and the process would be repeated again and again until the rails reached the Pacific. The route Whitney favored was from Lake Michigan to the mouth of the Columbia via Wyoming's South Pass.

The task of Pacific railroad building was a great deal more complicated than Whitney's proposal suggested. The necessity for government aid to railroad construction projects insured that any railroad project would become a political issue. Conflict between the North and the South, and among rival cities from St. Paul to New Orleans, each anxious to become the gateway to the West, made it impossible to achieve consensus on a route. In an attempt to resolve some strife, Congress authorized a series of parallel surveys to select the best route, and this included one along the forty-second parallel through what would become Wyoming. The surveys resolved nothing, and the issue remained a lively one as the Civil War began.

The beginning of the Civil War was actually a positive development for Pacific railroad plans. Departure of the Southern representatives in Congress eliminated much of the controversy over routes. Stories of the Southern attempts to lure California and the Far West away from the Union added emphasis to the view that a transcontinental railroad was essential to tie the Union together. On 1 July 1862, President Lincoln signed the Pacific Railroad bill, allowing for two Pacific railroads. The Union Pacific would build west from the Missouri River at Omaha. The Central Pacific would build east from Sacramento. This meant that the railroad would follow roughly the forty-second parallel route. Land grants of alternate sections five miles each side of the line, and low interest government loans provided the railroad essential support for the construction of the lines. Those favorable conditions were a great stimulus for laying rails, but the economic strains which the Civil War placed on the U.S. economy and the Union government prevented much construction until the war ended.

Very little railroad building had been done when General Grenville Dodge took over the building of the Union Pacific on 1 May 1866. Dodge reorganized the construction crews, and by the time winter forced a halt in the work, he had built west to North Platte, Nebraska, a total of 293 miles in one season. In 1867, the rails pushed into Dakota Territory, east of the future city of Cheyenne. In a series of jumps during 1867 and 1868, the construction headquarters crossed Wyoming from Cheyenne to Laramie, on to Rawlins, then to Green River, and finally in the fall of 1868, to Bear River City, located on the Dakota Territory-Utah Territory border. Four military posts were maintained along the route — Fort D.A. Russell (near Cheyenne, 1867), Fort Sanders (near Laramie, 1866), Fort Steele (where the rails crossed the North Platte River east of Rawlins, 1868) and Fort Bridger, located west of the town of

Green River on Black's Fork of the Green River (built by Jim Bridger in 1842-43 and taken over by the U.S. Government in 1858). At the peak of railroad construction in 1868, this combined force of workers and soldiers reached almost 8,000 (Larson 1981).

While the Union Pacific rails reached steadily westward, the region that would become Wyoming was also experiencing a gold rush. Rumors of gold in the area around South Pass had been circulating since the 1840's. Some placer mining began in 1865, but the major discovery was the location of the Carissa Lode in June of 1867. Several thousand persons may have moved in and out of the gold camps in the period from 1867-69. Three small mining camps named South Pass City, Atlantic City and Hamilton City (also known as Miner's Delight) were established. Supplies of gold were limited and the camps died in the early 1870's.

The Union Pacific construction and the South Pass gold rush created major problems for the government of Dakota Territory. Like the Montana towns, the new gold camps and railroad communities were too far away to be governed effectively from Yankton. Stories of riotous behavior in the railroad construction towns ("hell on wheels" as they were called) indicated that government was required. As early as 1865, bills were introduced to create separate territorial organization in western Dakota Territory. Various proposals used the names "Wyoming" or "Lincoln" and included areas now in western Nebraska and South Dakota. The Dakota territorial legislature authorized one seat for all of Wyoming which it had designated as Laramie County in January 1867. Fort Saunders was made the county seat. The representative for Laramie County, James R. Whitehead, failed to reach Yankton until almost the end of the December 1867 - January 1868 session. Dakota legislators were confused by requests from the South Pass region for the passage of mining laws. Sentiment in Yankton seemed to favor separate territorial government for Wyoming.

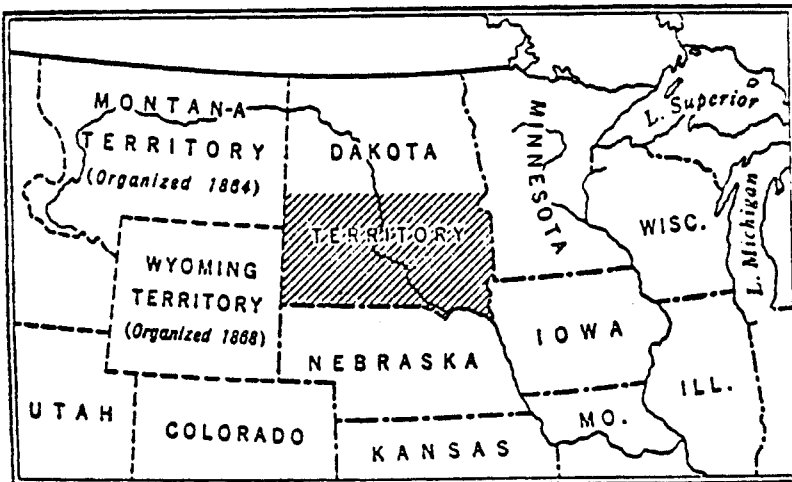


Fig. 9-22: Montana Territory, 1864, Wyoming Territory, 1868, and Dakota Territory (Schell 1968:75).

Sentiment in Washington was the same. A bill to establish Wyoming Territory easily passed on 22 July 1868. Choosing to ignore natural boundaries, Congress created a rectangle bordered on the south and north by the forty-first and the forty-fifth degrees north latitude and lying between 104°03' and 111°03' west longitude. Since none of these boundaries had been

surveyed at the time, their precise relation to prominent geographical features of the region was largely unknown. This decision was especially significant in the case of the Black Hills. The 104°03' boundary, which would remain unsurveyed until 1877, cut through the Black Hills and placed a region with unique ecological and resource characteristics into two different political jurisdictions. With one minor exception, the smaller Dakota Territory created by the detachment of Wyoming Territory would remain intact until it was divided into North and South Dakota in November 1889. Wyoming Territory would achieve statehood with its boundaries intact in July 1890 (Larson 1981; Schell 1968; Lamar 1956).

EXPEDITIONS, GOLD DISCOVERY AND MINING

Serious exploration of the resources of the Black Hills began with the expedition of Lieutenant G.K. Warren to the Hills in the late summer and fall of 1857. Before that expedition and its successors can be discussed, however, some preliminaries must be considered. Gold may have been discovered in the Black Hills prior to 1804. Missouri River fur trader Regis Loisel informed Spanish authorities in New Orleans of gold in a region called the "Black Mountains" before 1804 (Abel 1938). Since the expressions "Black Hills" or "Black Mountains" were loosely applied to the region bounded by the Big Horn Mountains on the west, the Missouri River on the east, and the North Platte and Platte Rivers on the south as late as the early 1870's, the concept that there was knowledge of gold in the Black Hills in the early 1800's should be only cautiously accepted. Ezra Kind's message of a gold-seeking expedition to the Hills in 1833-34, inscribed on a sandstone slab that was discovered near Spearfish in 1887 by stonemason Louis Thoen, has never been authenticated. The serious quest for gold and other Black Hills resources began with the arrival of scientists and explorers in the 1850's (Thomson 1956).

As a member of the 1857 Warren expedition, Ferdinand V. Hayden was the first trained geologist to see the Black Hills. Hayden's interest in the area stemmed from expeditions to the Powder River country and the White River Badlands during the period from 1853 to 1856. A member of Harney's 1855 expedition, Warren had developed a great interest in the Black Hills. The group left Fort Laramie on 4 September 1857 and reached the South Fork of the Cheyenne River, just west of the present Wyoming - South Dakota border. The expedition entered the Hills via the Beaver Creek drainage. After following this valley to Inyan Kara Mountain, the Warren party met a force of Teton Sioux which Warren described as large and unfriendly. This encounter ended the possibility that the expedition could conduct a thorough reconnaissance of the Hills. Determined to salvage something for his efforts, Warren led the group south around the outer edge of the Hills, and then north along the eastern perimeter to the vicinity of Bear Butte. The expedition then returned to the South Fork of the Cheyenne, following it from Sage Creek to French Creek. From French Creek, Warren turned east, continuing to Fort Randall on the Missouri River via the Badlands, arriving on 1 November 1857 (Warren 1859).

The Warren expedition's general impressions of the Black Hills region were interesting, but they raised almost as many questions as they answered. The Cheyenne River (Warren spelled it "Sheyenne") and its forks were described as the most important waterways in the area. The South Fork was characterized as a river bordered by considerable areas of fertile bottomland. It was speculated that the river could be rafted and that it offered the best route to the strongholds of the Dakota. The most valuable resources of the limited sections of the Black Hills that Warren observed appeared to be the pine and other large timber. Warren believed that it might be possible to float logs down the Cheyenne to distant markets if demand for timber grew in eastern Dakota. Away from the river bottoms, the prairies were described as mostly desert and it was noted that the barren nature had been intensified by recent grasshopper infestations. Hayden's section of the Warren report contained a detailed description of the geology of the region. But his speculation on exploitable minerals in the area was very limited, and there was no prediction that the Black Hills could become the next great gold bonanza of the American West. Hayden's practice of naming newly discovered geological formations after local rivers or Indian expressions, rather than similar European formations, was unique in American geology at the time (Warren 1859; Goetzmann 1966).

Indian peoples associated with the region in Warren's report included the Hunkpapa, the Blackfoot Sioux, the Sans Arc, the Minneconju, the Brule, and the Cheyenne (described as occasionally living with the Teton). The report described the lifestyle of the Indians in the area briefly:

"In the summer the Dakota follow the buffalo. In the winter they fix their lodges in clusters on the banks of lakes or streams. Cottonwood bark furnishes their horse food, and to obtain it many streams have been thinned or entirely stripped of their former beautiful groves" (Warren 1859).

In Warren's opinion, a war with the Teton, or Dakota, as he called them, was inevitable if the frontier were ever to come to the Black Hills and the surrounding area. Should this occur, Warren recommended establishing a military post "in the shadow of Bear Butte" (ibid) to deal with the problem.

Following the Warren excursion, the army made one more attempt to explore the Black Hills before the Civil War disrupted much of American society. An expedition to explore the

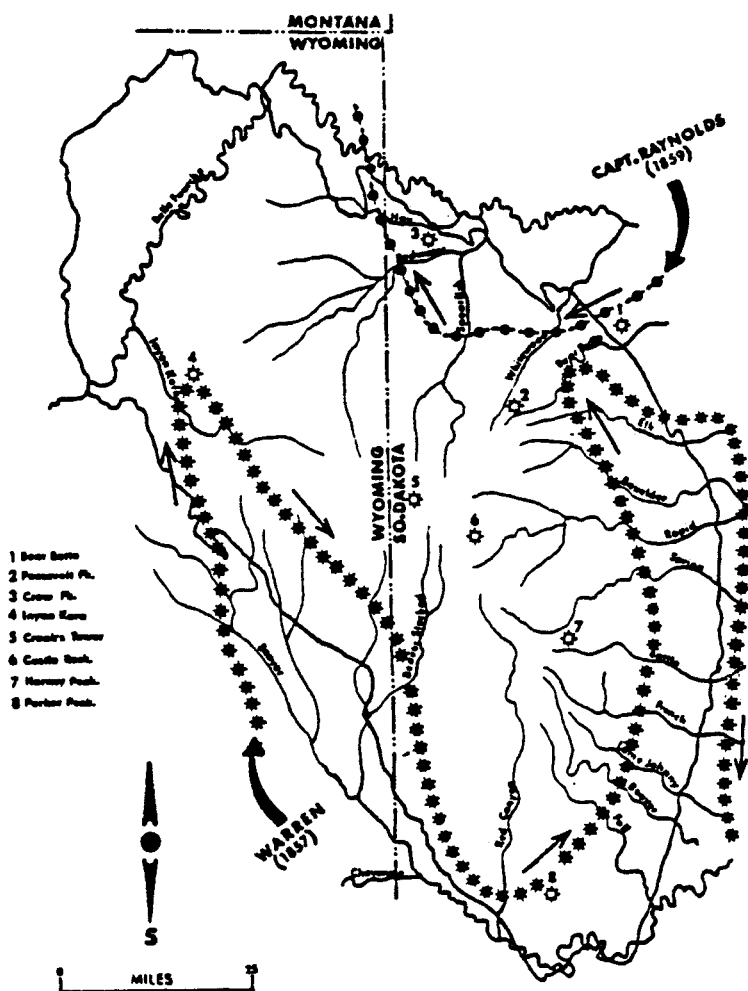


Fig. 9-23: Routes of the Warren and Raynolds expeditions in the Black Hills (Kovats 1977).

Powder River basin and Yellowstone region was organized under the command of Captain William F. Raynolds in 1859. The Raynolds expedition included Ferdinand Hayden, fresh from the Warren party, and guide Jim Bridger. Mr. Bridger later contended that he joined the group in order to search for gold in the Hills.

Raynolds left the Missouri near the mouth of the Cheyenne in July 1859 and followed the main Cheyenne and the North Fork (Belle Fourche River) to the northern edge of the Black Hills. Raynolds identified the Cheyenne as the "Shayenne" and offered a bleak description of the prairies east of the Black Hills. The expedition camped for several days along the Redwater River on the present Lawrence-Butte County line, and explored streams flowing into the Redwater from

the northern Black Hills (Raynolds 1868; Alter 1962).

A gold discovery quickly changed the objectives of the expedition. Small quantities of gold (confirmed by Hayden) were discovered in a stream flowing out of the Hills. Raynolds was alarmed by the discovery and immediately decided to move the expedition to the Powder River region. Raynolds feared the effects the gold discovery on discipline and refused to allow his command to dissolve into a gold mining endeavor. After a difficult winter on the edge of the Wind River Range in Wyoming, and failure to penetrate the region which would become Yellowstone Park, the Raynolds expedition returned to Fort Union via Great Falls and the upper Missouri in the summer of 1860. The report of the Raynolds trip clearly confirmed the existence of gold in the Black Hills, but the turmoil in Washington accompanying the coming of the Civil War prevented its publication until 1868. By that time there had been several military and private expeditions to the region around the Black Hills, and

the belief that the region contained gold was widespread (Raynolds 1868).

Almost as soon as Dakota Territory was created, promoters at Yankton (including such prominent Dakota Territorial pioneers as Moses K. Armstrong, Wilmot Brookings and Newton Edmunds) organized the Black Hills Exploring and Mining Association in 1861. The association spent the Civil War years sending petitions to Congress requesting government surveys of the Hills and location and construction of a wagon road from Yankton to Bear Butte. A private expedition to the Hills by Ferdinand Hayden in August 1866 located gold near Bear Butte. The delayed publication of the 1859 Raynolds expedition report to 1868 added to the pressure to open the Hills for mining (Kingsbury 1915, I; Parker 1966).

In the spring of 1867 one hundred ex-soldiers camped in tents near Yankton while preparing to undertake an expedition to the Hills under the sponsorship of the Mining Association. The group never was able to fulfill its mission. It was a victim of the peace policy and the attempt to negotiate the Fort Laramie Treaty of 1868. Since the Black Hills lay at the center of an area intended as the Northern Indian Reserve in the policy, General William T. Sherman, commander of the Military Department of the Missouri, issued orders that Whites be kept out of the Black Hills in the summer of 1867. The following year, the 1868 Fort Laramie Treaty placed an official stamp of approval on Sherman's policy by including most of the Black Hills inside the Great Sioux Reservation (Parker 1966).

Policies made could be changed, and those interested in the resources of the Black Hills were not ready to permanently concede the Hills to Indian peoples. There is plenty of evidence about continuing pressure from a number of quarters to open the Hills during the period after the negotiation of the 1868 Treaty. In the winter of 1869-70, the Black Hills and Big Horn Association was formed at Cheyenne. The association had over two thousand applications for membership and actually organized an expedition to the Hills which had to be turned back by the military. Yankton and Sioux City, Iowa interests acquired an enthusiastic supporter of plans to open the Black Hills in Charles Collins, editor of the Sioux City Times. Collins, an ardent supporter of Irish independence and an active member of the Fenian movement, saw the Hills as a potential source of wealth to aid his cause. Gold from the Hills could aid efforts ranging from the outright purchase of Ireland from England to the financing of invasions of Canada. In 1872, Collins formed the Black Hills Mining and Exploring Association of Sioux City, enlisting the support of many prominent businessmen in the city. An expedition to the Hills was organized and scheduled to leave 1 September 1872. Only the army's threat to arrest the party if it entered the Great Sioux Reservation turned the expedition back. In 1873, the Dakota Territorial legislature passed a resolution asking Congress to explore the Hills, open them to settlement and confine the Indians to a smaller reservation outside the Hills.

Thus it can be argued that there was considerable popular and political pressure to open the Hills by the time of the Custer expedition (Kingsbury 1915, I; Parker 1966).

All of the above activities notwithstanding, there is no evidence to indicate that the Custer expedition to the Black Hills resulted from popular or political pressure to explore and open the Hills to mining. As noted above, the army considered the Custer expedition to be a by-product of a developing confrontation with the Sioux over the construction of the Northern Pacific Railroad. Logistical problems of supplying a campaign against the Sioux from existing posts in Dakota, Wyoming and Montana would be very great. Sites for new military posts better suited for operations against the Sioux were needed, and the Black Hills might be well-suited for such posts (Utley 1977; Jackson 1966).

More than any other event, the Black Hills expedition, led by Lt. Colonel George A. Custer during July and August 1874, changed the course of Black Hills history. As indicated above, the Black Hills remained one of the largest unexplored areas in the American West by 1874. The great potential for conflict over construction of the Northern Pacific Railroad made warfare on the Northern Great Plains likely, and the Hills might offer ideal sites for military installations. Although having been written almost twenty years prior, G.K. Warren's 1857 expedition report remained the most detailed account of Hills resources and geography available to the military. The orders which authorized the expedition made no mention of prospecting for gold, but the personnel on the foray included trained scientists, and they would be likely to locate and record gold in Black Hills streams, if any were present. Actually, when details of the expedition's organization were completed, the geologist was given the responsibility of looking for auriferous strata. Given the number of attempts to reach the Black Hills and prospect for gold, the army could hardly have been ignorant of the possibility of a gold discovery. Reconnaissance of the Black Hills for possible military post sites was offered as the major reason for the Custer expedition, but there were many possibilities for other discoveries by the party.

Students of Black Hills history are continually surprised at the size of the Custer expedition. The force included ten companies of the Seventh Cavalry, two companies of infantry, a battery of three Gatling guns, one Rodman gun, a detachment of Indian scouts and guides, and a military band, a force amounting to almost one thousand men. The train consisted of nearly one hundred wagons. Scientists and engineers included: Captain William Ludlow, topographic engineer; W.H. Wood, topographer; Professor N.H. Winchell, State Geologist of Minnesota; George Bird Grinnell of Yale, paleontologist; and his assistant, L.H. North; Dr. J.W. Williams, Chief Medical Officer and botanist; W.H. Illingworth, photographer; and William Ellery Curtis and others who acted as newspaper reporters. One member, a Black woman named Sallie Campbell, accompanied the expedition as

the cook for Custer's mess. "Aunt" Sallie would spend most of the rest of her life in the Black Hills, and was fond of introducing herself as the first "White" woman in the Hills. Illingworth, the photographer, would receive rations and the use of an army ambulance for a darkroom, in exchange for providing copies of photographs of the expedition to the government. Two others were in the party. Horatio Nelson Ross and William T. McKay had as their chief interest the prospecting of gold in Black Hills streams. Based on the resistance shown to railroad surveys along the Yellowstone River in 1873, the Custer expedition was large, well armed and prepared for conflict with the Indians (Jackson 1966; Progulsk 1974).

The Custer expedition left Fort Abraham Lincoln for the Black Hills on 2 July 1874. Their route took them across western North Dakota via the Heart and Cannon Ball Rivers and into South Dakota at a point about twelve miles southwest of Lemmon, reaching there on 8 July. By 11 July, the expedition was camped near the cave later known as Ludlow Cave in the Cave Hills of what would become Harding County. From the Cave Hills, the route slanted southwest into present Montana along the Little Missouri River Valley. A party led by Captain Ludlow travelled to the West Short Pines and first sighted the Black Hills from this point, before rejoining the main column. By 17 July the expedition was camped along Owl Creek just across the South Dakota border in Wyoming, northwest of Belle Fourche. The next day, the party moved south and west to the Belle Fourche River and found traces of the Reynolds expedition trail from 1859. Although the Indian guides seemed reluctant to enter the Black Hills, the group managed to reach a campsite along Hay Creek on 20 July. By 22 July they were camped east of Inyan Kara Mountain, after passing through the open country along Government Valley between the Black Hills and the Bear Lodge Mountains.

By entering the Black Hills from this point near Inyan Kara Mountain, the Custer expedition was beginning from the point at which Lieutenant Warren was forced to end his Black Hills reconnaissance in 1857. Captain Ludlow, Professor Winchell and Indian guide, Bear's Ears, climbed Inyan Kara, hoping to gain a view of the Black Hills. Smoke from a prairie fire, believed to be set by the Indians obscured most of the view. Although this caused some concern among the military officers, the absence of encounters with the Indians continued. There were two deaths at the Inyan Kara camp. One was caused by dysentery and the other was due to a shooting related to a dispute over the handling of a horse. Both soldiers were buried near the camp and their graves remain marked to this day.

From the Inyan Kara camp, the expedition followed the Spring Creek branch of Sand Creek into the Hills. Wild flowers grew in such abundance that Custer referred to this section of the route as the "Floral Valley".

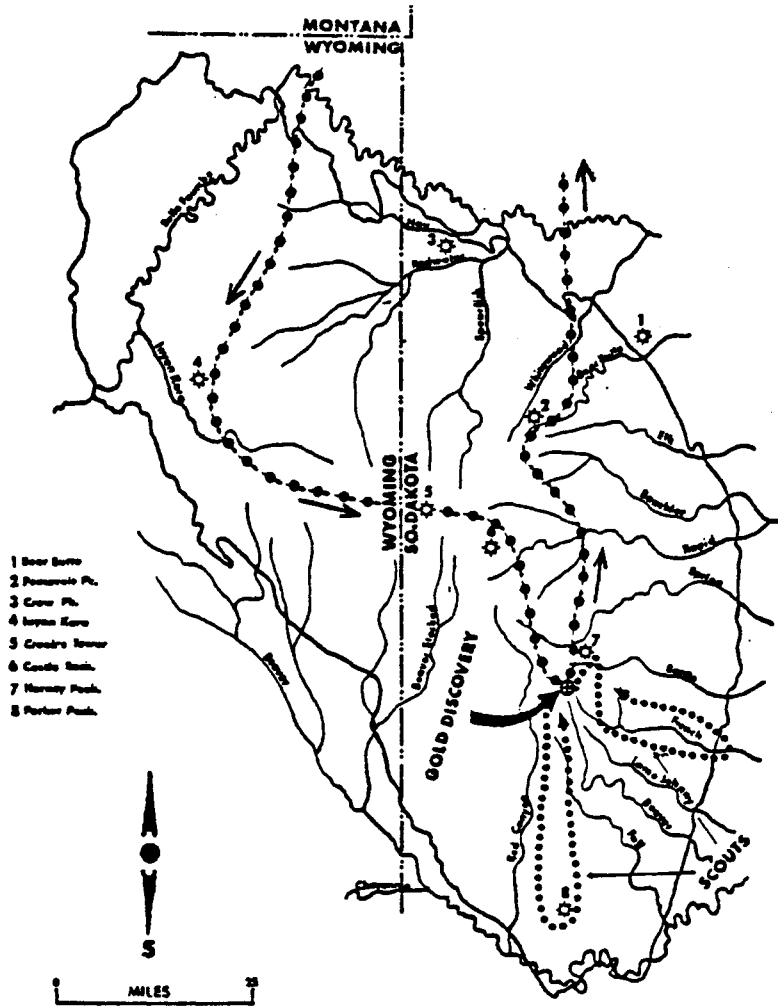


Fig. 9-24: Route of the Custer expedition of 1874 to the Black Hills (Kovats 1977).

camp resembled castles and so the creek through the valley became Castle Creek. In his journal, Ludlow reported that ore favorable to bearing gold was located on 27 July along Castle Creek and that there was some mention of miners finding "color" in the creek. If these discoveries occurred, they created little excitement.

On 28 July, the expedition travelled down Castle Creek and detoured to what was called "Elkhorn Prairie" (now Reynolds Prairie), originally named because of the large number of elk horns found there. Following an old and well-used Indian trail to the head of a tributary of Castle Creek (later called Gold Run), the party camped near the divide between the Castle and French Creek drainages. On 30 July, with some on a march that lasted until 3:30 a.m., a camp was finally established along French Creek near present Custer. The next day Custer, Major Forsyth, Captain Ludlow and one company of cavalry set out to climb Harney Peak. They followed a route near the present

On the afternoon of 26 July, while still ascending the Floral Valley, the expedition had its only contact with Indians while still in the Black Hills. A small Teton Sioux village of seven lodges and twenty-seven women and children was found in the valley. Village headman, One-Stab, and the other men were away on a hunting foray, but his wife, a daughter of Red Cloud, and most of the rest of the village were captured. The Sioux were frightened by the Arikara scouts and escaped in the evening. When One-Stab returned, he was held hostage and forced to be a guide for the expedition.

From high points near this camp, the expedition gained its first view of Harney Peak, already known from Warren's map and reports. The high limestone ridges around the

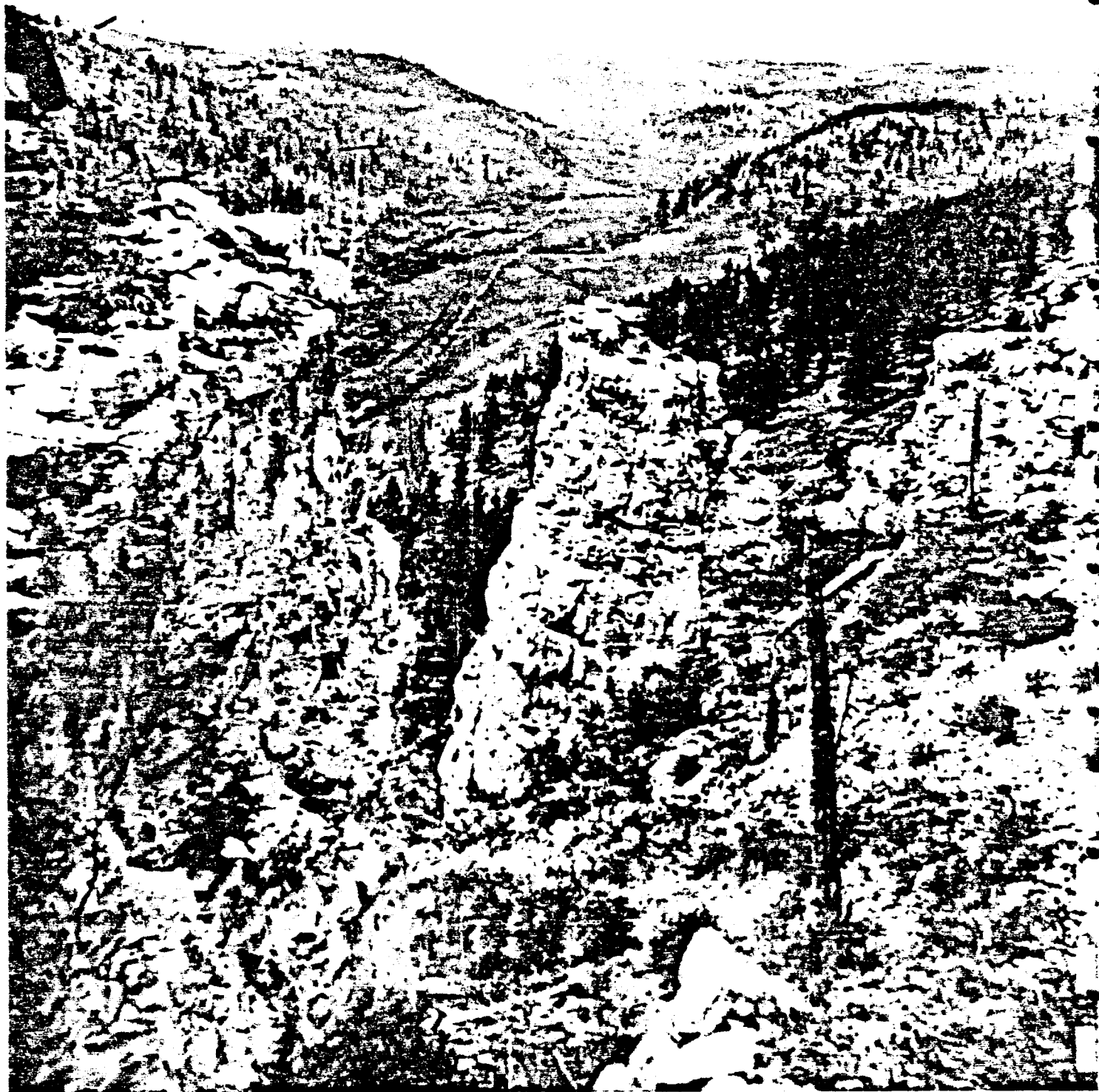


Fig. 9-25: A view to the northwest up Castle Creek Valley, with the long string of wagons making the trek toward French Creek and the fateful gold find (Ilingworth photo, July 1874, South Dakota Historical Society).

Sylvan Lake road. Night fell before the peak was scaled, and the party of explorers did not return to camp until after midnight. In a miscalculation of considerable magnitude, they estimated Harney Peak's altitude as 9,700 feet (actually is 7,242). On 1 August the camp was relocated three miles down French Creek to a point near present Stockade Lake. For the next five days, this was the expedition's base camp for several exploratory side trips. This camp is also considered to be the location of the original gold strike, possibly made by Horatio Ross on 1 August 1874.

Excursions from the French Creek camp included one east toward the Badlands, and another south to the South Fork of the Cheyenne River. The Badlands expedition consisted of Winchell and Grinnell of the scientific staff. This party proceeded down French Creek toward the Cheyenne, but did not actually reach the Badlands. On 3 August, a column of five companies led by Custer and Ludlow, journeyed down south to the Cheyenne via Pleasant Valley and Red Canyon. From the Cheyenne, scout Charley Reynolds was sent on his fateful mission to Fort Laramie with dispatches from the expedition. Among those was one written by correspondent John R. Curtis which appeared in the Chicago Inter-Ocean on 27 August 1874, providing the outside world with its first news of Black Hills gold discoveries.

On 6 August the return to Fort Lincoln began. Following a route similar to the one taken in to French Creek, the group returned to the head of Castle Creek. From there they moved north across Elkhorn (Reynolds) Prairie, crossed the South Fork of Rapid Creek above present Rochford, and camped the night of 7 August near Nahant on the North Fork of Rapid Creek. Custer killed a large grizzly bear near this camp. Officers, forced to eat part of the animal at mess, complained that it was rank and tough. From Nahant, the group moved north and east along the edge of Custer Peak and then down the Middle Fork of Box Elder Creek. Swinging north into the southwest corner of Meade County, east to meadows along the headwaters of Little Elk Creek and then south, camping on the Box Elder near present Nemo on 10 August. One day's rest was spent in this camp while the engineering staff checked some references to prominent peaks in Warren's 1857 report, and Custer scouted a route out of the steep ridges along the Box Elder Canyon. On 12 August, the expedition camped on Bogus Jim Creek. To provide reference out of the narrow canyons, Lieutenant Godfrey was sent to take bearings on Bear Butte and Harney Peak. Crossing Box Elder Creek, the expedition followed a narrow ravine which took it eventually out into the Red Valley near Piedmont. This stretch was the most difficult one covered during the entire expedition. Some wagons overturned on steep slopes. Ruts and rope grooves in pine trees, where wagons were raised up the slope, were still visible decades later. On 13 August, the expedition was only able to cover two miles. James King of Company H, Seventh Cavalry, died on the night of 13 August and was buried in a meadow along



Fig. 9-26: Custer (center) at his camp on the North Fork of Rapid Creek at the time of his killing of a grizzly bear (7 Aug 1874). Ludlow is on the far right, and the Arikara scout Bloody Knife is at the left. (Ilingworth photo, August 1874, South Dakota Historical Society).

the trail. Once reaching the Red Valley, the expedition made better time, and on 14 August they camped along Bear Butte Creek, seven miles south of Bear Butte.

After a day's rest, the journey across the prairie to Fort Abraham Lincoln began. A route east of Bear Butte, crossing the Belle Fourche River near present Newell, was chosen. After encountering a band of Cheyenne who warned them that Sioux led by Sitting Bull were planning to attack the expedition, they moved northwest, passing west of Castle Rock, camping on the night of 19 August near the western edge of the Cave Hills. On 22 August, from a point near Marmath on the Little Missouri, the column turned northeast toward Fort Lincoln, arriving on 30 August.

The main body of the expedition had travelled 833 miles. Total mileage, including exploration by detachments, was 1,205. Along the route, so much game had been encountered, and the range conditions were good enough, that the livestock herd, driven along as a source of meat for the expedition members, arrived intact and in good condition after the long journey.

In terms of increasing geographical knowledge of the Black Hills, the expedition was a great success. Officers were pleased by the absence of Indian confrontations. The most controversial question raised seemed to be the issue of gold in the Hills. Professor Winchell, the geologist, claimed that he saw no gold. Others who wrote about the expedition were not very enthusiastic about quantities of gold found. Ludlow's report commented that prospects for great gold and silver deposits did not seem favorable:

"...the evidence gathered on the trip I conclude was discouraging to that supposition," (Ludlow 1875).

The real value lay in the fact that the Black Hills were totally different from the surrounding territory:

"...its variety of resource and delightful climate; the protection it affords both against torrid heat and arctic storms of the prairies will eventually make it a home of a thronging population" (Ludlow 1875).

On one score, the expedition appears to have been a complete failure. President U.S. Grant's alcoholic son, Captain Fred Grant, was sent along to sober up in the clear western air. Custer later complained that Captain Grant was drunk for most of the journey (Ludlow 1875; O'Harra 1929; Jackson 1966; Progulske 1974; Krause and Olson 1974).

Gold may not have been an important discovery in the opinions of members of the Custer expedition, but for the rest of the country, it was an entirely different matter. Somewhere between the French Creek camp and the editor's desks in the East, the gold discoveries grew by tremendous proportions. Harper's Weekly ran a full-page story on 12

September mentioning fifty dollar placers, and it was soon urging that the Black Hills be purchased from the Indians. Beginning with the Black Hills gold rush, outsiders seemed to hear and believe outlandishly exaggerated stories of Black Hills gold.

The element of wishful thinking in the reports of Black Hills gold was perhaps a reflection of the times. Economically, the summer of 1874 was a grim period for the United States. The financial panic which had begun the preceeding year had settled into a deep economic depression. The wave of speculation which accompanied expansion of western railroads after the Civil War had ended. The Union Pacific was struggling to avoid bankruptcy. The Northern Pacific was stalled in Bismarck and the westward expansion plans, which had figured so prominently in events which led to the planning of the 1874 Custer expedition, were cancelled. The Montana gold fields would not see railroads until the Utah Northern and the Northern Pacific arrived in the early 1880's. The settlements around Yankton in eastern Dakota Territory were suffering from grasshopper plagues and depressed agricultural conditions. The so-called "Crime of '73" had depressed silver prices and created serious difficulty for western silver mines. Declines in productivity in some established gold mining areas compounded problems for the mining industry. Kansas cattle towns shared some of the effects of the depression, as older towns such as Wichita, Newton and Ellsworth were eclipsed by Dodge City and newer towns farther west. The combination of these and other conditions created a climate of opinion ready for any possible good news and willing to expand any such news as far as possible.

Under these conditions, the question was not if illegal gold-seeking expeditions would be undertaken, but rather, when would it take place. Newspapers from San Francisco (the San Francisco Chronicle) alone reported five different expeditions to the Black Hills) to Chicago were frequent reporters of projected expeditions to the area in the fall of 1874. In towns closer to the new gold fields, stories of parties headed for the Hills were constantly printed. Nevertheless, only one party actually reached the Black Hills before the winter of 1874-75 began. Although that party located little gold, it has its own peculiar place in the mining history of the region.

The Gordon Party, named for its inept guide and Captain, John Gordon, represented the fulfillment of Charlie Collins' long deferred dream to dispatch a gold seeking expedition to the Black Hills. News from the Custer expedition simply confirmed what editor Collins had been saying in the Sioux City Times for years. Collins may have operated on the assumption that if the army could enter the Hills, so could everyone else. Perhaps he assumed that, given the political

the trail. Once reaching the Red Valley, the expedition made better time, and on 14 August they camped along Bear Butte Creek, seven miles south of Bear Butte.

After a day's rest, the journey across the prairie to Fort Abraham Lincoln began. A route east of Bear Butte, crossing the Belle Fourche River near present Newell, was chosen. After encountering a band of Cheyenne who warned them that Sioux led by Sitting Bull were planning to attack the expedition, they moved northwest, passing west of Castle Rock, camping on the night of 19 August near the western edge of the Cave Hills. On 22 August, from a point near Marmath on the Little Missouri, the column turned northeast toward Fort Lincoln, arriving on 30 August.

The main body of the expedition had travelled 833 miles. Total mileage, including exploration by detachments, was 1,205. Along the route, so much game had been encountered, and the range conditions were good enough, that the livestock herd, driven along as a source of meat for the expedition members, arrived intact and in good condition after the long journey.

In terms of increasing geographical knowledge of the Black Hills, the expedition was a great success. Officers were pleased by the absence of Indian confrontations. The most controversial question raised seemed to be the issue of gold in the Hills. Professor Winchell, the geologist, claimed that he saw no gold. Others who wrote about the expedition were not very enthusiastic about quantities of gold found. Ludlow's report commented that prospects for great gold and silver deposits did not seem favorable:

"...the evidence gathered on the trip I conclude was discouraging to that supposition," (Ludlow 1875).

The real value lay in the fact that the Black Hills were totally different from the surrounding territory:

"...its variety of resource and delightful climate; the protection it affords both against torrid heat and arctic storms of the prairies will eventually make it a home of a thronging population" (Ludlow 1875).

On one score, the expedition appears to have been a complete failure. President U.S. Grant's alcoholic son, Captain Fred Grant, was sent along to sober up in the clear western air. Custer later complained that Captain Grant was drunk for most of the journey (Ludlow 1875; O'Harra 1929; Jackson 1966; Progulské 1974; Krause and Olson 1974).

Gold may not have been an important discovery in the opinions of members of the Custer expedition, but for the rest of the country, it was an entirely different matter. Somewhere between the French Creek camp and the editor's desks in the East, the gold discoveries grew by tremendous proportions. Harper's Weekly ran a full-page story on 12

September mentioning fifty dollar placers, and it was soon urging that the Black Hills be purchased from the Indians. Beginning with the Black Hills gold rush, outsiders seemed to hear and believe outlandishly exaggerated stories of Black Hills gold.

The element of wishful thinking in the reports of Black Hills gold was perhaps a reflection of the times. Economically, the summer of 1874 was a grim period for the United States. The financial panic which had begun the preceeding year had settled into a deep economic depression. The wave of speculation which accompanied expansion of western railroads after the Civil War had ended. The Union Pacific was struggling to avoid bankruptcy. The Northern Pacific was stalled in Bismarck and the westward expansion plans, which had figured so prominently in events which led to the planning of the 1874 Custer expedition, were cancelled. The Montana gold fields would not see railroads until the Utah Northern and the Northern Pacific arrived in the early 1880's. The settlements around Yankton in eastern Dakota Territory were suffering from grasshopper plagues and depressed agricultural conditions. The so-called "Crime of '73" had depressed silver prices and created serious difficulty for western silver mines. Declines in productivity in some established gold mining areas compounded problems for the mining industry. Kansas cattle towns shared some of the effects of the depression, as older towns such as Wichita, Newton and Ellsworth were eclipsed by Dodge City and newer towns farther west. The combination of these and other conditions created a climate of opinion ready for any possible good news and willing to expand any such news as far as possible.

Under these conditions, the question was not if illegal gold-seeking expeditions would be undertaken, but rather, when would it take place. Newspapers from San Francisco (the San Francisco Chronicle) alone reported five different expeditions to the Black Hills) to Chicago were frequent reporters of projected expeditions to the area in the fall of 1874. In towns closer to the new gold fields, stories of parties headed for the Hills were constantly printed. Nevertheless, only one party actually reached the Black Hills before the winter of 1874-75 began. Although that party located little gold, it has its own peculiar place in the mining history of the region.

The Gordon Party, named for its inept guide and Captain, John Gordon, represented the fulfillment of Charlie Collins' long deferred dream to dispatch a gold seeking expedition to the Black Hills. News from the Custer expedition simply confirmed what editor Collins had been saying in the Sioux City Times for years. Collins may have operated on the assumption that if the army could enter the Hills, so could everyone else. Perhaps he assumed that, given the political

and economic climate noted above, there would be a stampede to the Hills, regardless of federal treaty obligations. At any rate, earlier plans to dispatch a party to the Hills were rapidly put into action. Although Collins printed frequent rumors of expeditions in the Times, actual plans for the party were developed more quietly. General Phil Sheridan dispatched clear orders from his Chicago headquarters to his departmental commanders, General Alfred Terry and General E.O.C. Ord, that any expeditions to the Hills were to be turned back, their equipment burned, and their leaders arrested. Having been frustrated by the army before, Collins was more cautious. He announced to the press that plans for the expedition had been cancelled, and preparations for what came to be the Gordon Party were completed under high security and in secret (Tallent 1899; Parker 1966).

Although planned as a much larger expedition, the party which headed for the Black Hills consisted of twenty-six men, one woman, and a boy. John Gordon, the leader, was paid \$1,000.00 for his services by the citizens of Sioux City. It was assumed that Gordon had some knowledge of routes to the Hills — an assumption that later proved to be unfounded. The group was a mixture of individuals. Some had no frontier experience whatsoever. Others were Wisconsin woodsmen with some skills in handling firearms. The woman was Annie B. Tallent, accompanied by her son Robert and her husband P.G. Tallent. Annie was sometimes incorrectly identified as the first non-Indian woman to visit the Black Hills. As previously noted, this honor actually belongs to "Aunt" Sally Campbell, the Black woman who served as Custer's cook in 1874.

To avoid suspicion, the expedition gathered on the Nebraska side of the Missouri River opposite Sioux City near Covington. Canvas covers on the wagons were painted with the legend "O'Neills Colony" (O'Neill, Nebraska) to give the impression that the wagon train was simply another group of settlers. On 6 October 1874 the expedition gathered to begin its journey to the Black Hills. Thus they began a journey which would require two and one-half months, and would stand unchallenged for the prize the "least direct route" to the Black Hills. The party headed west from Covington to O'Neill's Colony and northwest from there to the Nebraska - Dakota border and on to the Badlands. From the east edge of the Badlands, the group went northwest to the Bad River and west toward the Black Hills along its river valley. The Expedition suffered its only fatality along the Bad River. On 27 November a Jewish prospector, Moses Aaron, died and was buried in a simple coffin under a Christian cross. This was done because it was believed the cross would protect his grave from Indians. The party sighted the Hills on 30 November, but did not actually enter them until 9 December, doing so by crossing the South Fork of the Cheyenne near the mouth of Elk Creek. At a point several miles east of present Sturgis, the party found the Custer expedition trail and they followed it to French Creek

camp, reaching that point on 23 December. Along the way, Gordon made frequent adjustments in route, suggesting that he knew nothing of the country west of O'Neill. All in all, the Gordon Party followed such a zig-zag course to French Creek that it took twice the time and covered twice the distance that should have been required by such a journey. It did escape detection, which is some justification for its indirect route. Probably Gordon's ignorance of the country was the major reason for the circuitous course taken by the group.

Along the entire route, the party had feared encounters with the army or the Sioux. They saw frequent Indian signs, and actually sighted a small party of soldiers near the Nebraska-Dakota border northwest of O'Neill. Mrs. Tallent comments in her book (Tallent 1899) that she cannot understand why the soldiers did not see them. The fear of Indians continued after the party reached French Creek. They spent their first three weeks on the site building a stockade eighty feet square with thirteen foot high ponderosa pine logs set three feet in the ground. Inside were six cabins, a well and a stock of firewood. The place became known as the Gordon Stockade.

The party did very little gold mining during the early months of 1875. Annie Tallent recalled that the weather alternated between being cold and pleasant (a typical Hills winter). The entire group recovered only forty dollars worth of gold in January. It was too cold to work the placers, except in the middle of the day. Most of the party became restless, and on 6 February 1875, Gordon and another member of the party headed east to bring in more miners. They reached Yankton in early March and created considerable excitement on their arrival. Their presence also confirmed the army's suspicions that there were trespassers in the Hills. Several army expeditions to the Black Hills had failed to locate illegal miners, but efforts were renewed after Gordon turned up in Yankton. When two other members of the Gordon Party arrived at Fort Laramie in March, the army detained them and used them as guides for an expedition which found the Gordon Stockade on 4 April. The party was given two days to gather its property, most of which had to be left behind, and they set out for Fort Laramie with a military escort. Although they had trespassed on Indian land, and the army was under orders from General Sheridan to prosecute those whom it caught, the party was released when it reached Fort Laramie. By 1876, the Tallents were back in the Black Hills. The Gordon Party was first, but it could claim no honors for gold recovered in the Black Hills (Tallent 1899).

Numbers of gold seekers, trying to duplicate the success of the Gordon Party in reaching the Hills, created great difficulty for the U.S. Government. While short-term measures to keep miners out of the area might delay resolution of the Black Hills question, the final answer to the government seemed to be attaining an agreement to purchase the Hills from the Indians. As previously noted, negotiations on this score were long and unsuccessful. As this process began in the spring of 1875, it appeared useful for the government negotiators to have some idea of the worth of the Black Hills. Although the Custer expedition had offered a somewhat pessimistic appraisal of the mineral resources of the Black Hills, miners who managed to reach the Hills were obviously finding some gold. Another reconnaissance concentrating on geology and the mineral wealth of the Black Hills seemed justified.

With this idea in mind, the Department of the Interior commissioned an expedition to be led by Walter P. Jenney. His selection came at the recommendation of Professor John Strong Newberry of the Columbia School of Mines, and Joseph Henry of the Smithsonian Institution. Henry Newton, one of Newberry's star students, accompanied Jenney as his assistant. Newton, being an experienced mineralogist, was especially valuable to the expedition. Fascinated by the geology of the Black Hills and its mining prospects, Newton would return later to join in the gold rush. Dr. Valentine G. McGillicuddy served as the topographer, beginning an association with the Black Hills that would last until his death many years later. Captain H.P. Tuttle, of the Cambridge Observatory, served as astronomer, and eleven professional miners, led by E.M. Most and W.F. Patrick, rounded out the scientific and professional complement (Jenney 1876; Newton and Jenney 1880; Goetzmann 1966; Tallent 1899).

The Jenney expedition was accompanied by a formidable military escort. Commanded by Lt. Colonel Richard I. Dodge, who would publish an extensive journal of the expedition, the escort included soldiers from the Second and Third Cavalry, and the Ninth and Twenty-third Infantry. Support was furnished by a train of seventy-five wagons. Indian opposition to this incursion was anticipated, and the large contingent seemed warranted. Included in the "military escort" may have been Martha Jane Canary, the infamous "Calamity Jane". She later claimed to have attempted to join the expedition disguised as a man at Fort Laramie and to have been evicted at that time, before rejoining the column secretly prior to its reaching the Black Hills. Since most sources on Calamity Jane are poorly documented and tend to be contradictory, her presence on the expedition remains a matter of speculation.

Jenny had some difficulty getting into the field. He was commissioned on 26 March 1875. Anxious to be on his way, he had gathered the scientific corps at Cheyenne on 25 April. Logistic delays kept the expedition from leaving for Fort Laramie until 20 May 1875. On 24 May, they crossed the North

Platte, joined its military escort and proceeded toward the Hills. The route into the Hills followed Beaver Creek, just west of the Wyoming border. It reached the East Fork (Stockade Beaver Creek) on 3 June. The party crossed into the French Creek drainage and on 16 June were at the placers near the Gordon Stockade. By that time the expedition had developed a division of labor. Jenny and the professional miners examined the mineral deposits and conducted prospecting in the streams. Newton, McGillicuddy and Tuttle conducted more general geological surveys, examining and recording the topography of the Black Hills. The standard operating procedure of the group was to transfer base camps from one place to another as surveys of each drainage were completed. Explorations began in the southern Hills and worked northward. Coverage was much more thorough than that of the Custer foray, although some key areas, especially the Deadwood region, were not explored. After almost four months of work, the parties attached to the expedition gathered at the mouth of Rapid Creek on the Cheyenne River and then returned together to Fort Laramie via Spotted Tail and Red Cloud agencies. They arrived at Fort Laramie after an absence of almost five months on 14 October 1875.

On the whole, the more detailed work of the Jenney expedition seemed to confirm some of the preliminary conclusions of the Custer expedition. From the start, Jenny was unenthusiastic about the prospects for mining in the Black Hills. From his French Creek camp on 17 June 1875, he wrote:

"I have discovered gold in small quantities on the north bend of Castle Creek, in terraces of bars and quartz gravel. Arrived here yesterday. About fifteen men have located claims on the creek above here and have commenced working. Gold is found southward to French Creek at this point. The region has not been fully explored, but the yield of gold is small and the richness of the gravel has been greatly exaggerated. The prospect, at present, is not such as to warrant extensive operations in mining"(Jenney 1876).

Jenney went on to explain that water in many Hills streams was limited for sluicing operations. Jenney's miners found that the best they could do in some gravel was from four to eight "colors" to the pan, which meant about one-fifth to one-tenth of a cent. Jenney believed that if large-scale placer mining methods were used, the deposits might be worked successfully, but water shortages made this possibility unlikely. On the whole, Jenney was not optimistic about the mining prospects offered within the region.

Colonel Dodge and other members of the expedition devoted only limited attention to the Black Hills mining prospects. Their writings focused instead on the topography and natural beauty of the Hills, and on the resources other than gold. Dodge's description of Rapid Creek and Rapid Valley provide examples.

Rapid Creek was:

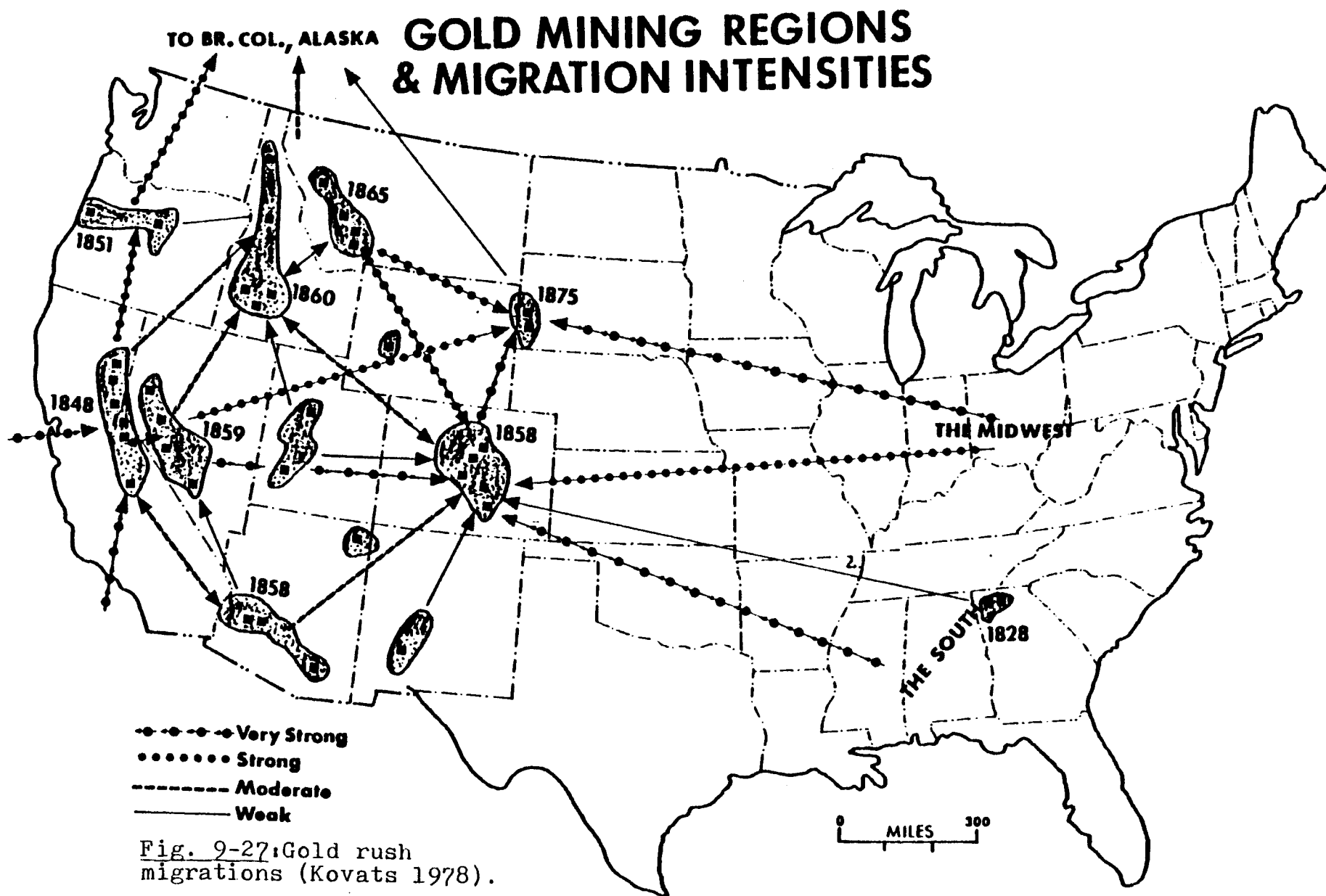
"a very beautiful stream of pure cool water flowing with great velocity over a pebbly bed" (Dodge 1876:73-75).

As for Rapid Valley:

"it is one of the loveliest and most valuable valleys of this country. It is one of the choicest spots in the Hills for the settler. Unfortunately, there is gold enough in the sands and soil of the creek bottom to induce some vandal to put the whole of it through sluice boxes, leaving the now lovely valley a desert of rocks and sand" (Dodge 1876).

On the whole, Dodge echoed Ludlow's belief that the Black Hills were totally different from the surrounding countryside, and offered a wide range of resources from pleasant climate and scenic beauty to timber and grass capable of supporting a thriving society. When the opinions of all commentators of the Jenney expedition are considered, the message seems clear. The Black Hills were potentially valuable, but the greatest resources were probably not the gold and silver (Jenney 1876; Newton and Jenney 1880; Dodge 1876; Tallent 1899; Goetzmann 1966).

Months, and sometimes years, passed before the reports of government expeditions were in the hands of the public. In the meantime, would-be miners continued to reach the Black Hills, prospecting continued, and gold camps struggled into existence and died when results failed to justify the hopes that had given birth to them. Most Black Hills prospectors operated on the assumption that the fortunes would be made or lost in the fleeting days and months while the government was negotiating with the Indians to purchase the Hills, and scientists were determining the precise value of Black Hills gold deposits. Under these circumstances, no gulch was too remote to be prospected, no claim too outrageous to be pressed forward, and no camp too sacred to be abandoned if better prospects seemed to lie across the next ridge.



PIONEER BLACK HILLS COMMUNITIES

These conditions of such a frantic nature created an incredible number of mining camps and communities to support the mining endeavors. Students of Black Hills "ghost towns" have identified several hundred "extinct" communities that date from the gold rush era. Surviving Black Hills towns, with a few exceptions, also trace their origins to this same period. Discussion of the founding of these communities would require hundreds of pages. Consequently, an attempt will be made to identify categories of Black Hills towns and camps, provide representative examples, and discuss the general themes which these communities and their histories lend to the interpretation of Black Hills cultural resources (Parker and Lambert 1974; Fielder 1972).

Custer

It is difficult to avoid beginning with Custer. While Custer was not the first gold camp, and it certainly did not produce the most gold, Custer provided the focus for the Black Hills gold rush in the days before the summer of 1876, when the interest shifted to Deadwood.

The French Creek area had been the original Custer expedition gold discovery site, and the objective of the Gordon Party. Several townsites were laid out before Custer in the same general area. The Gordon Party had laid out a townsite named Harney City, prior to their eviction from the Hills. Miners arriving in the summer of 1875 established Harney City in the Bear Rock area. This site was short-lived, and was replatted within a month as Custer City. The townsite was established 10 August 1875, just five days before General George Crook's expedition escorted miners in the region out of the Black Hills. The townsite company hoped to form a basis for claiming the site when the Black Hills were purchased from the Indians and clear title could be obtained. General Crook allowed guards to be left behind to protect markers on the site (Sundstrom 1976).

After Crook's departure and the failure to negotiate a purchase of the Black Hills in 1875, miners returned to the Custer site, and the town grew rapidly. By January 1876, Custer had a population of approximately 1,000 and there were additional new arrivals through the balance of the winter. In March 1876, the town included a small smelter, an assay office, a sawmill, hotel, six general stores, two bakeries, seven saloons, three hundred cabins and many tents. A city government consisting of a mayor, council, judge and law enforcement officers had been organized. Gold panning and placer mining was widespread, but claims yielding only six dollars or so a day held profits to a minimum.

News of the great Deadwood discoveries seemed to destroy Custer's future as a mining town. The available placers were worked out, and the excitement created by the rush in the northern Hills caused Custer to be depopulated within a few weeks during the summer of 1876. The remaining population consisted of miners working what was left of the placers, and diehard merchants serving the trade which stopped in Custer while travelling the trail leading to Deadwood. In August 1876, city government was reorganized, a school was opened and two newspapers, the Custer Herald and the Custer Chronicle were established. Custer's growth was less spectacular than that of other Hills towns, but it did survive the depopulation that accompanied the Deadwood rush. As Deadwood and the northern Hills gold camps became crowded, miners drifted back to Custer. By 1878, the deeper and more difficult placer deposits in some southern Hills streams around Custer were again being worked by miners. Shortages of gold and water, compared to the northern Hills, would keep these mining districts from ever becoming a major placer mining area. The sporadic mining activity did demand retail trade, education, governmental administration and other services. By virtue of its being first, and continuing to exist in the face of adversity, Custer was able to capture much of the business activity associated with all of these activities. In the 1880's and 1890's, local pegmatite, mica and feldspar mines, limestone and sandstone quarries, enthusiasm for tin mining prospects and logging, sustained the town's economy. Some of these activities, along with administrative services for the United States Forest Service, railroading and tourism, would allow Custer to survive and grow slowly in the Twentieth Century.

Custer's history illustrates one type of Black Hills community development. Located as a gold camp because of its association with historic first discoveries, the community was able to exploit these initial advantages and alter its role as changing times, resource demands and economic circumstances dictated (Sundstrom 1961, 1977; Whitley 1967; Clark 1941).

Deadwood

Deadwood followed Custer as the premier mining camp and focus of the Black Hills gold rush. Compared to its sister city in the southern Hills, however, Deadwood was, almost from the day of its birth, the center of the Black Hills gold rush.

The origins of the Deadwood gold strike pose a series of questions not likely to be answered to the total satisfaction of Black Hills historians. General Crook's attempts to expel miners from the Black Hills were only partially successful, and prospectors worked their way north through the gulches of the Hills during Crook's August 1875 meetings with those miners he could find in the area. Several prospecting parties were active in the region around Deadwood in that late summer and

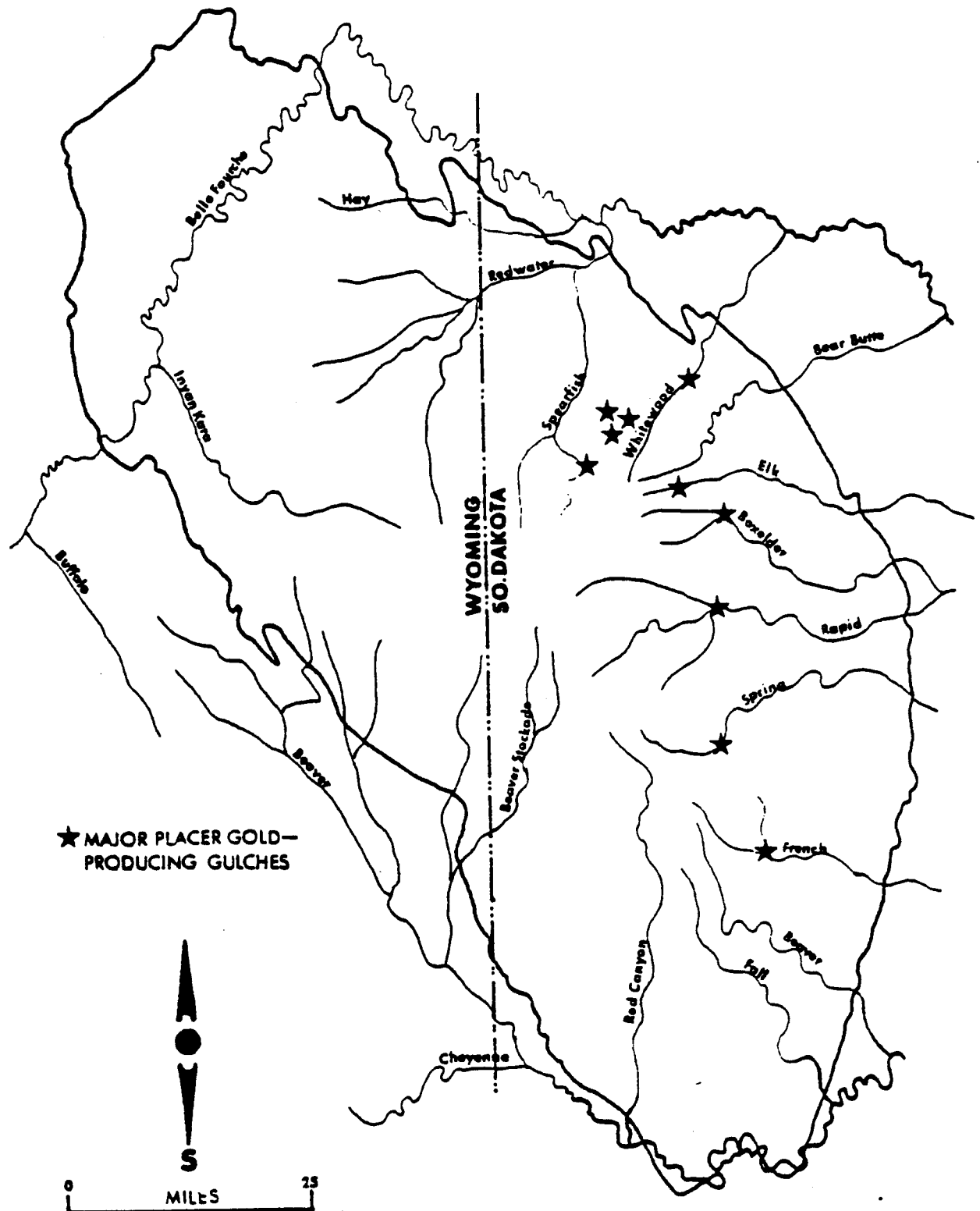


Fig. 9-28: Major placer mining areas in the Black Hills (Kovats 1978).

early fall. An eight-man group, led by Frank Bryant, came into Whitewood Gulch from Spruce Gulch in August, finding gold near the mouth of City Creek (inside the present city of Deadwood) on 11 August 1875. Bryant's claim was not recorded until November 1875, and some sources indicate that the Bryant party left the claim for a time and returned to begin serious mining in October. A second party came from Custer to discover gold on Deadwood Creek 6 September. They had no contact with the Bryant party. A third discovery on Deadwood Creek was made by some men led by William Lardner in, or perhaps before, early November 1875. Early Lawrence County sheriff Seth Bullock believed the Lardner party to be the original discoverers. This site would become the early mining camp of Gayville (Tallent 1899; O'Harra 1913; Willard and Brown 1924; McClintock 1939; Parker 1966, 1981).

At the same time, placers were discovered in the region along the Wyoming - Dakota border in the Bear Gulch and Nigger Hill areas, far to the west of Deadwood. The Hurricane Mining District was established in this area in the fall of 1875. Bear Gulch and a number of mining camps were soon established in the area, and placers worked actively until 1878. The fact that this area remains one of the least accessible in the Black Hills provides some of the indication of how widespread the search for gold had become in the northern Black Hills by the fall of 1875. However, regardless of the wide dispersion of miners, Deadwood would remain the center of the northern Hills gold rush.

Timing of the discoveries discussed above insured that the northern Hills gold rush would wait for the spring of 1876. As the snows of winter came to the Hills, prospectors were limited to working the placers when weather permitted. Experienced miners from earlier gold rushes began searching ridges above the placers for ore leads which could indicate good locations to stake hardrock claims. The first hardrock claim of which a record has survived was staked by Frank Bryant on the ridges above Deadwood Creek in January of 1876. This condition was typical of mining developments in the northern Black Hills. The placer claims and the hardrock quartz claims were discovered and developed almost simultaneously in many mining areas. Rodman Paul's study of western mining frontiers describes a three stage process through which western mining districts developed. The three stages could be described briefly as: discovery; placer mining; and organized hardrock and hydraulic mining (Paul 1963). On most frontiers, these stages took place in sequence. In the Black Hills, the lines between the stages of development were blurred (Parker 1966, 1981; Kovats 1978; Paul 1963).

Location of substantial placers in the northern Black Hills had a number of consequences. One of those was to dispel the growing belief that the Black Hills might not hold major

STAGES IN THE GOLD MINING TECHNOLOGY

1874-1877	1878-1890	1891-1905	1906-1920	1921-1930
PLACER	LODE			
<p>PICK-AND-SHOVEL METHOD OF MINING; FLUME, SLUICE BOX, ARRASTRA TYPE OF CRUSHER USED.</p> <p>LOCAL RAW MATERIALS ARE UTILISED. POOR TRANSPORTATION, ANIMATE POWER USED IN THE HAULING.</p> <p>RECOVERY OF GOLD: 60-70% (WASTE PILES LATER REWORKED BY HYDRAULIC METHOD WITH 20-30% RECOVERY)</p> <p>DEPTH OF MINING: SURFACE WITH TUNNELS AND DISCOVERY SHAFTS.</p>	<p>HARD-ROCK MINING (INITIAL STAGE) SINGLE AND DOUBLE JACK METHOD</p> <p>APPLICATION OF SOME MACHINERY IN MINING AND MILLING. MAINLY HAND AND DRY DRILLING. MINE WORKINGS ARE SHALLOW; NO VENTILLATION.</p> <p>SELECTIVE AND HIGH-GRADE MINING. RECOVERY. BY AMALGAMATION 75% CRUSHING CAPACITY: 2.5-5.0 TONS PER DAY PER STAMP.</p> <p>MINE WORK: SQUARE-SET TIMBER STOPE.</p> <p>MINING CAPACITY: 1-2000 TONS PER DAY.</p> <p>ANIMATE POWER STILL IMPORTANT.</p> <p>DEPTH OF MINES: 200-600 FT.</p>	<p>HARD-ROCK MINING (INTERMEDIATE STAGE)</p> <p>TIME OF GREAT CHANGE AND EXPANSION. LARGE CAPITAL INVEST.</p> <p>MECHANISATION NEARLY 100%. ORE GRADE DECREASES; TONNAGE MINED INCREASES.</p> <p>RECOVERY BY CHLORINATION, CYANIDATION 94%.</p> <p>A NEW DORR CLASSIFIER AND MERRILL ORE PROCESS INTRODUCED.</p> <p>CRUSHING CAPACITY: 8 TONS/STAMP</p> <p>MINE WORK: SHRINKAGE STOPE INTRODUCED.</p> <p>ELECTRICITY INTRODUCED. STILL DRY DRILLING.</p> <p>CAPACITY: 4000 TONS/DAY</p> <p>DEPTH OF MINES: 800 FT.</p>	<p>HARD-ROCK MINING (ADVANCED STAGE)</p> <p>COMPLETE MECHANISATION IN ALL PHASES OF MINING.</p> <p>GREAT DIVERSIFICATION</p> <p>SHRINKAGE AND CUT-AND-FILL STOPING</p> <p>NEARLY COMPLETE ELECRIFICATION</p> <p>CAPACITY: 8000 TONS/DAY</p> <p>DEPTH OF MINES 2200 FT.</p>	<p>HARD-ROCK MINING (MODERN STAGE)</p> <p>SELF-SUFFICIENCY</p> <p>RECOVERY: 96%</p> <p>WET TYPE DRILLING. DIAMOND DRILLING</p> <p>CUT-AND-FILL STOPING MAINLY</p> <p>DEPTH OF MINES 3-4000 FT.</p>

Fig. 9-29: Gold mining stages in the Black Hills (Kovats 1978).

gold deposits. Another was to accelerate the gold rush to the Hills and compound the problems associated with Indian policy. The crazy-quilt pattern of development following gulches wherever they led renders a structured interpretation of the gold rush placer mining process almost impossible. Nor is it possible to construct a profile of a "typical" placer miner or a "typical" placer operation. Because of the late date of the Black Hills gold rush, and the relatively high accessibility of the Hills, experienced miners came from a number of locales (Colorado, California, Montana), along with thousands of greenhorns from the East. It had required three months of arduous overland travel to reach California, an equal time around Cape Horn, and perhaps half that time via Panama to reach the California gold fields three decades earlier. A railroad ticket to Sidney, Nebraska, or Cheyenne, and then another week's travel could bring the goldseeker to the Black Hills. Probably the only thing surprising about the numbers of people reaching the Black Hills is that there were not more of them.

Characteristics of the gold rush population represented by those in the northern Hills in those days have little in common with the current inhabitants there. The 1876-77 populace consisted mostly of young men. Women accounted for only a small percentage, perhaps only 200 of a population of 10,000 or so for the first two years of the gold rush. There were a fair number of men over thirty, but most were younger. Beards and rough clothing made Hills miners seem older in photographs. Since there was no census until 1880, the first recorded profiles of the Deadwood inhabitants probably provide a distorted image of the gold rush frontier. Twenty-nine percent were miners, sixteen percent were wives, twelve percent were laborers, and the balance included children and a scattering of other occupations. The male to female ratio was 20:7.

If Deadwood and the surrounding gold camps can be taken as any indication, there were a fair number of representatives from several ethnic groups in the Black Hills in the early days. Forty-one percent of the charter members of the Black Hills Society of Pioneers were foreign-born. References to Black citizens of the Hills are frequent in early accounts. Sarah "Aunt Sally" Campbell, Custer's cook on the 1874 expedition, settled in the Black Hills, eventually living at Galena. As late as 1900, Deadwood listed a Black population of thirty-eight. Jewish merchants were also common in Deadwood. Among these were Sol Star, a partner of Seth Bullock in a long-lived hardware business; Harris Franklin, mining promoter and namesake of the Franklin Hotel in Deadwood; Jake Goldberg of Goldberg's Grocery; and a dozen or so others. During the years before 1920, Deadwood had an active synagogue. As merchants, the Black Hills Jewish community lived in the main mining towns and avoided isolated mining camps.

Deadwood's Chinese were easily the most obvious ethnic group in the Hills during the gold rush era. They arrived with the rest of the would-be miners in 1876, and continued to come for several years thereafter. The 1880 census listed 164 Chinese, but their lifestyles, structured around closed and restricted family units, make it difficult to arrive at accurate estimates of their numbers. Deadwood's Chinatown was located near the lower end of current Main Street. The Chinese ran laundries and stores, worked abandoned placer claims, and operated their own mercantile stores which were sometimes frequented by Anglo residents of Deadwood. In the 1880's, small numbers of Chinese also lived in Spearfish. Accustomed to large numbers of people and urban settings, the Black Hills Chinese preferred to live in towns (Parker 1966, 1981).

Other ethnic groups were scattered across the Black Hills. Although this was not true during the gold rush era, Lead became the ethnic capitol of the Black Hills. In his history of the Homestake Mining Company at Lead, Joe Cash (Cash 1959, 1973), discusses the large ethnic presence in that community prior to the First World War. Lead included a substantial number if Italians, Serbs, Croats, Scandinavians, Cornish, Welsh, Irish and a scattering of others. At that time, Lead had the largest and most diverse ethnic populace in South Dakota. The economy and society of the northern Black Hills gold fields was far more diverse than any other area of both South Dakota and Wyoming in the years preceding World War I.

As the commercial, financial, transportation and communications center, Deadwood's preeminence lasted well into the Twentieth Century. As incidated above, the city grew over sections of Whitewood, Deadwood and other creeks holding the richest placer deposits of any drainages in the Black Hills. Unlike Custer, Deadwood did not have to struggle to justify its existence during the placer mining era. Deadwood could claim large quantities of gold, and institutions which grew around the Deadwood placers served a bona fide mining bonanza. Deadwood was also fortunate enough to be located within a few miles of major hardrock mining deposits. This allowed the community to continue serving mines and miners as mining progressed from the placer to the organized hardrock organized mining stage of development. As long as gold mining and activities to support gold mining remained the most important economic endeavors in western South Dakota, Deadwood could continue as the most important town in that region. The Times would serve as the regional newspaper. The Franklin Hotel would become the showplace of the region. Politicians and world travellers anxious to see the Black Hills would focus on Deadwood.

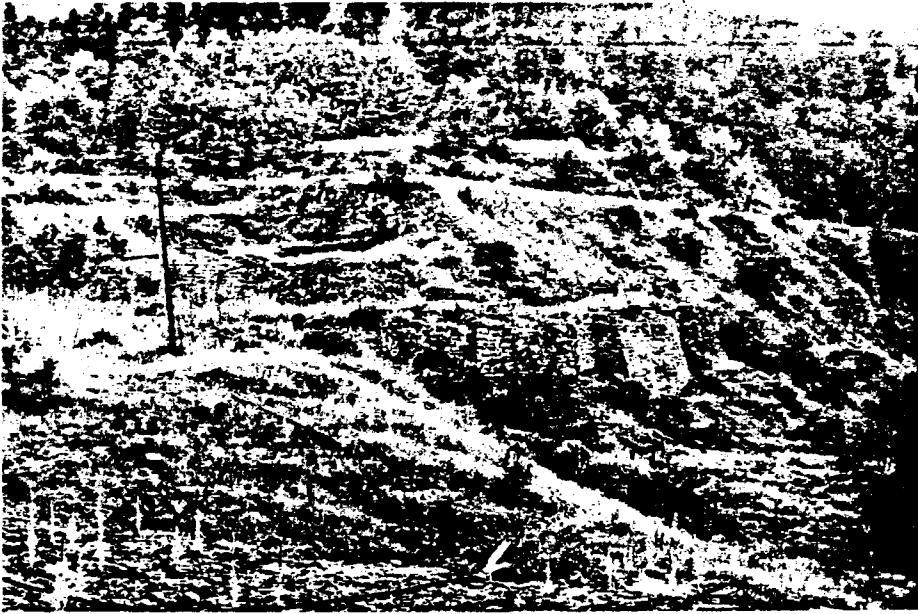


Fig. 9-30: Stone footings and abandoned railroad grades remain from the Golden Reward Smelter in lower Deadwood. This site was part of a mining complex that drew ore from locations scattered across the north Hills and produced gold and silver worth twenty-five million dollars between 1890 and 1918 (Dave Miller photo).

The early evolution of Deadwood also illustrates other themes common to the western mining frontier. Placer mining regions often developed dozens of mining camps in relatively small geographical area. Deadwood was no exception. At one time, the limits of the present city of Deadwood included all or part of Montana City, Elizabethtown, Fountain City, Chinatown, North Deadwood, South Deadwood, Whoop Up, City Creek, Cleveland and Ingleside.

Natural disasters would make little difference, if the potential of the mining frontier continued to be promising. Much of the Deadwood business district was destroyed by fire during the night of 25-26 September 1879, and by flood during the spring of 1883. After each disaster, a new business district reappeared, filled with commercial establishments which were larger and more elaborately constructed. While optimism regarding the Black Hills' mining future continued, Deadwood's predominance was assured (Parker 1981).

Lead

Lead's development was similar to Deadwood's in some respects and radically different in others. Lead City grew up around a series of rich hardrock mining claims. The first resident of what would be Lead City was probably Thomas Carey, who found promising gold deposits on Gold Run Creek in February of 1876. Carey and eleven others organized the Summit Mining District 21 February 1876, and their successes drew a number of other miners to the area by the summer of 1876. Lead City was surveyed in early July of that year. The name was chosen because of the many gold leads in the area. One of these was the lead located by the Manuel brothers, Fred and Moses, on 8 April 1876. Typical of many Black Hills goldseekers who brought experience to the region, the Manuels were French-Canadians who had prospected across the West from British Columbia to Nevada and Montana before

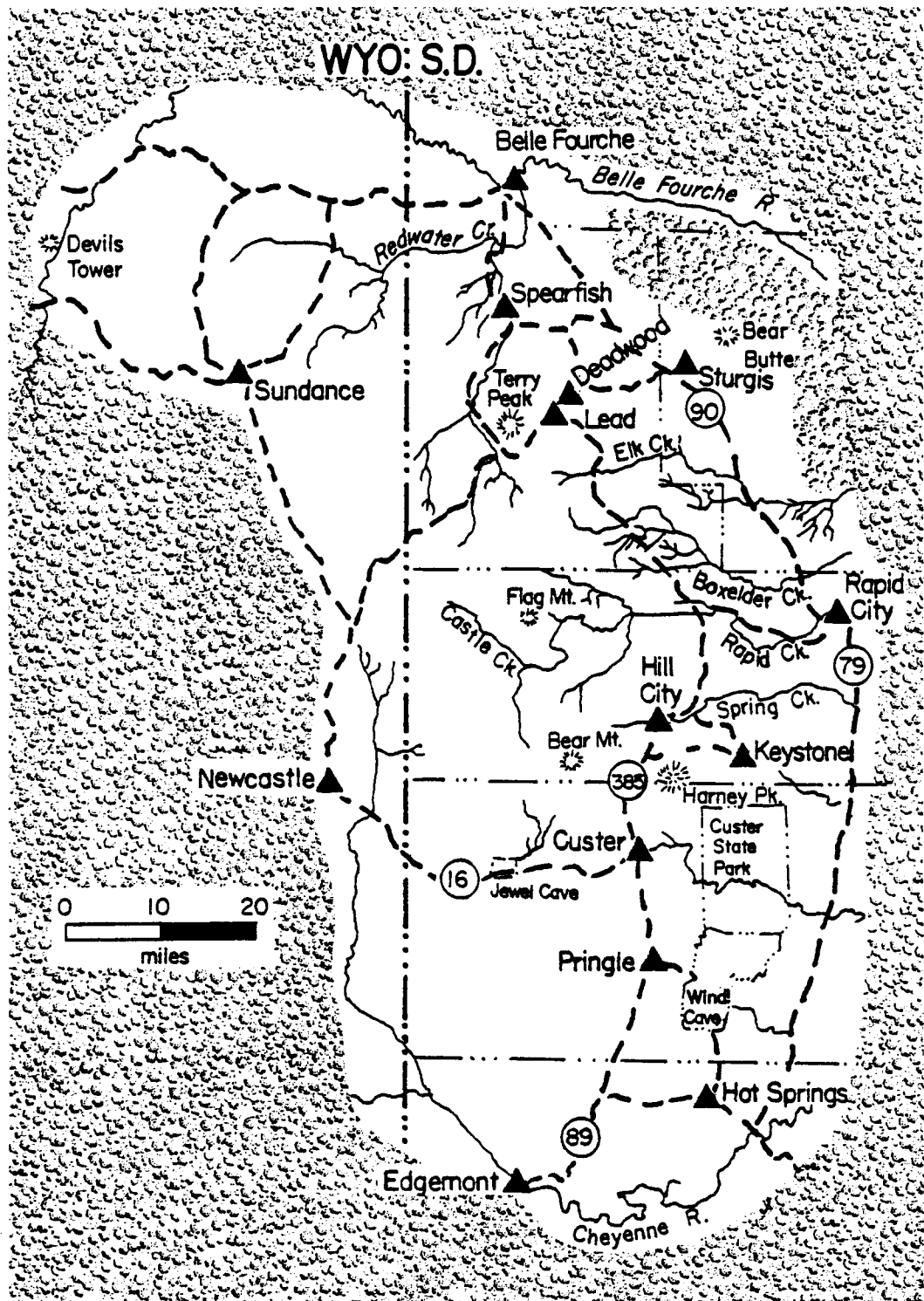


Fig. 9-31: A number of Black Hills communities discussed in this chapter, with the modern highways that connect them.

coming to the Hills. They had located several hardrock claims below the Homestake. The name given to the claim stemmed from the practice of identifying really promising gold leads as



Fig. 9-32: Mineshafts exist by the hundreds in the Black Hills and will outlive the remains of the last gold mill as examples of the impact of mining on the terrain (Dave Miller photo).

profitable, hoping to stake one for a trip home for life. The Homestake and surrounding leads would provide the basis for the Homestake Mining Company, and leave a lasting impression on the Black Hills mining frontier (Cash 1973; Fielder 1970).

More than any other Black Hills community, Lead's location, literally on top of valuable ore loads, insured that its destiny would be that of a mining town. Demands for labor were extensive and transportation dictated that the miners live within walking distance of the mines. Open pit mining, with its noise, dirt and dust, ruling out surface development and limiting transportation access, decreed that Lead would subordinate all other activities to mining. The eventual predominance of the Homestake Mining Company in all of the affairs of the Lead community, reinforced these tendencies. The role of communications, commerce and higher culture would be left to Deadwood. By the early 1890's, Lead would be able to boast the largest population in South Dakota, but that group would focus narrowly

on mining, and services needed to support miners. The increasing power of Homestake Mining Company also made Lead unique as a company town in an agrarian state. Changes of the Twentieth Century would only reinforce these tendencies. Today Lead remains a mining town, tied tightly to the destiny of that one enterprise (Cash 1959, 1973; Bronson and Watkins 1977).

Spearfish

Other northern Hills communities represented different dimensions of the mining frontier. Spearfish was not born as

a mining town, and its history has kept it on the fringe of mining developments since the gold rush. More than anything else, Spearfish was the product of the relatively abundant water and high agricultural potential of the Spearfish Valley, and the demand for agricultural products from the northern Hills gold camps. Dependence on distant eastern markets would have doomed most agricultural enterprises in the Spearfish Valley to failure, although the town did enjoy a brief career as a ranch headquarters in the 1880's. Realizing that the mines of Deadwood and the surrounding areas would need food and forage, Spearfish Valley settlers planned a townsite to serve this market. Members of the Smith, Gay and Montana parties formed a townsite company and agreed on a location on Spearfish Creek, where Thomas Jefferson had located his claim on 22 May 1876. On 29 May the site was platted with the use of a plain pocket compass. A few log cabins were built near the center of the townsite, and when Indian raid in the area increased during the late summer, the cabins were enclosed by the Spearfish stockade, constructed that September. The stockade insured that the town development along lower Spearfish Creek would focus on that site, and a community slowly took shape around the stockade during 1877 (Szalay 1976).

The growth of Spearfish followed an uncertain path. Ranches which grew up in the valley supplied feed and produce to Deadwood, and Spearfish became the trade center for much of this ranching community. Then the opening of a normal school to train teachers in 1883 provided some economic benefits. With the completion of a railroad down Spearfish Canyon in 1893, the possibility was raised that Spearfish would become a smelting center for gold ore from the Iron Creek and Ragged Top areas. Those prospects never developed, however. In 1899 a federal fish hatchery was opened there, though with only minor financial impact. Sawmills, cattle shipping enterprises and other economic activity suffered from the lack of adequate rail transportation. The route up Spearfish Canyon was scenic, but it was also slow and very indirect. Spearfish would have to wait for the rise of tourism, radical changes in the economic structure of Black Hills communities, and other developments in order to experience rapid growth. Until the years following World War II, Spearfish remained a sleepy community, known as a pleasant place to live, but with only limited economic prospects (Szalay 1976).

Rapid City

Rapid City's early history paralleled that of Spearfish, but its opportunities came much sooner. From the day of its founding, Rapid City's greatest advantage was its location. John Brennan recalled that Rapid City was the product of frustration experienced by a party of twelve to fifteen would-be gold miners who were attempting to mine gold in

Palmer Gulch near Hill City in February of 1876. On 22 February, this group of discouraged goldseekers left the gulch and travelled to Rapid Creek to seek a townsite which could capture the trade of prospectors headed into the Black Hills. Brennan, who had come to the Black Hills from Denver, was aware of the advantages which could come to the community located in the right spot to control the trade of a mining frontier. They felt they could have a "Denver" of the Black Hills. On 23-24 February 1876, Sam Scott and several other members of the party laid out a townsite which they named Rapid City. Since Scott used a pocket compass with no correction for magnetic variation, Rapid City's original townsite varies fifteen degrees from true north. Spearfish and some other Black Hills townsites share this characteristic (Miller 1984).

Rapid City's early years were difficult ones. The town experienced a series of Indian attacks during the spring and summer of 1876. By August the town was almost deserted and the remaining residents built a blockhouse for protection.

Rapid City's role as Pennington County seat and a major stop on the Sidney (NE) to Deadwood stage route improved the community's commercial prospects as time passed. Roads leaving the Black Hills to the east from Custer, Hill City, Rochford and other towns, converged on Rapid City. The opening of the School of Mines in 1885 and the arrival of the Fremont, Elkhorn and Missouri Valley Railroad in 1886 created a minor land boom. When rails moved on toward Deadwood, however, the boom ended and Rapid City had to survive by serving a limited local trade, and as a major shipping and outfitting point for prairie ranches east of the Black Hills. Hopes that the town would become a substantial gold smelting center and that it would prosper from the development of Black Hills tin deposits never materialized. At the turn of the century, Lead and Deadwood were much larger than Rapid City.

Events in the years following 1905 guaranteed that Rapid City would emerge as the most important Black Hills community. A new period of railroad building gave Rapid City added significance as a transportation center. The Milwaukee Road and the Chicago and Northwestern lines from the Missouri River were laid into town, and coupled with the completion of the Rapid Canyon Line, made Rapid City a regional hub. Railroad construction and the opening of surplus Indian reservation lands created a land rush of major proportions, attracting thousands of settlers. Rapid City's location, and the transportation advantages now secured, made it a desirable focal point for additional commerce. As automobile transportation became more important, highways to the Black Hills from the Missouri River also converged on Rapid City. Rapid City was to later benefit greatly as the "gateway" to the Black Hills as tourism grew as a substantial component of the local commercial scene.

SELECTED CITIES

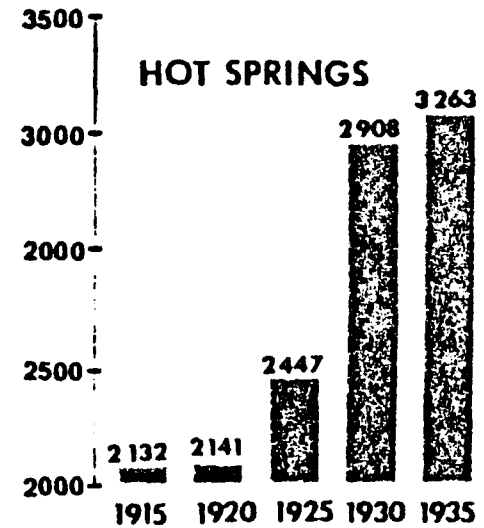
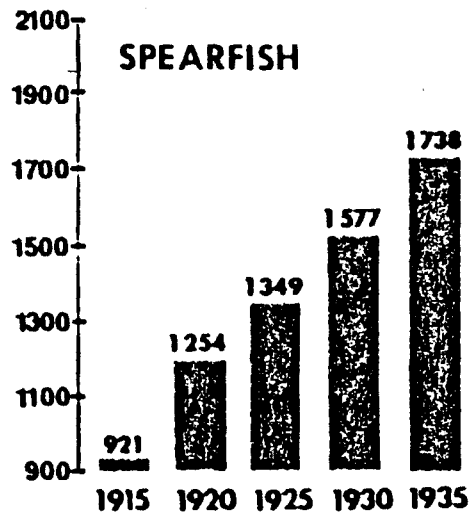
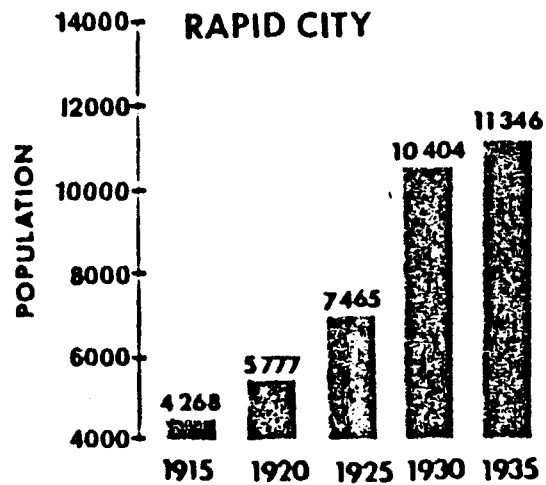
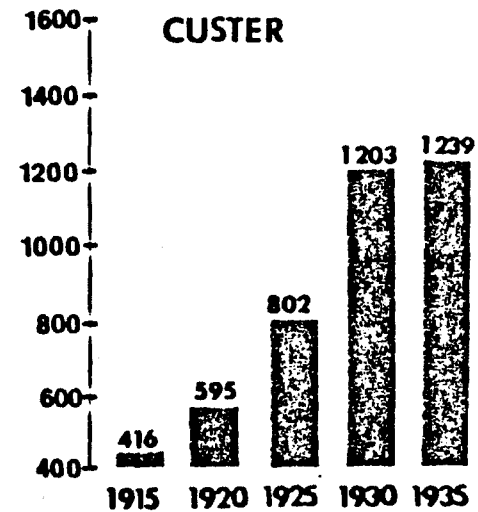
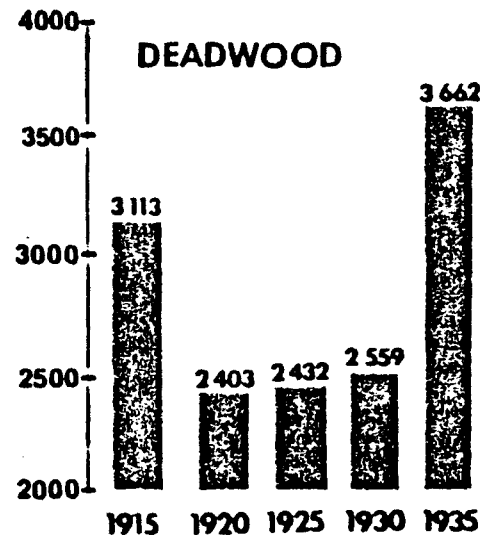
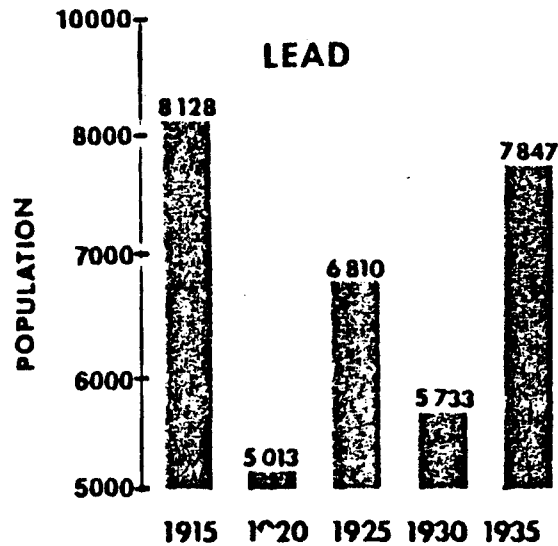


Fig. 9-33: Population change in various Black Hills towns (Kovats 1978).

The construction of the South Dakota state cement plant, designed to utilize Rapid City's excellent raw materials for cement manufacture and good shipping connections, gave the city another major industrial boost. Location was also the key to the development of the Warren-Lamb lumber enterprises in Rapid City. Railroad connections allowed timber from the Black Hills to be sawed and finished at a large plant in town, and shipped conveniently to markets throughout the region. Warren-Lamb created a significant additional employment base for Rapid City.

In almost every instance cited above, Rapid City's location allowed an advantageous mix of raw materials and access to markets. As mining became less important in the overall economic picture of the region, following World War I, Rapid City assumed an increasingly important role among Black Hills communities, because it had developed a substantial base that served the non-mining economy (Miller 1984).

Sturgis

Sturgis combined several themes significant in the development of Black Hills towns. The creation of Fort Meade provided a population center which would need services and entertainment for troops at the post. With this idea in mind, Major H.M. Lazelle, commander of Fort Meade, and a number of private citizens claimed and platted an eighty acre tract on 25 October 1878. The town was named in honor of Lieutenant James G. Sturgis, son of Seventh Cavalry Commander Samuel Sturgis. James Sturgis had been killed with Custer at the Little Big Horn.

Frequent additions were made to the Sturgis townsite in the 1880's. Sturgis served a mixed trade of army post and farm and ranch clientele in Bear Butte and neighboring valleys. The arrival of the railroad in 1887 insured the town's survival (Tallent 1899; Lee 1976).

Minnelusa

A number of communities surrounding the edge of the Hills shared some of functions of Spearfish, Rapid City and Sturgis. Belle Fourche, Minnelusa, Sundance and Oelrichs all grew as supply and shipping points for the regional ranching industry which developed in the late 1870's and early 1880's. Each of these four offered its own variations on the agricultural theme.

Located in a choice site along the Redwater River, Minnelusa appeared likely to emerge as the most important town in the region north of Spearfish. In the mid-1880's, Minnelusa boasted a newspaper, a number of business establishments, and it was the county seat of newly created Butte County. An agreement between developers of the Fremont, Elkhorn and Missouri Valley and Deadwood interests destroyed the town in the late 1880's. The railroad bypassed Minnelusa in favor of Belle Fourche. This decision came in response to an offer by

LEGEND

- MINING CAMP/TOWN (GOLD,SILVER,TIN, ETC.)
- TRANSPORT TOWN(STAGE, RAILROAD)
- ★ TIMBER CAMP
- ◇ QUARRY
- POST OFFICE
- ◇ RESORT
- ▲ MILITARY POST
- ✧ FUR POST
- FARM/RANCH
- ♣ CATTLE SHIPPING
- ☆ OTHER

SOURCE: WATSON PARKER, BLACK HILLS GHOST TOWNS AND OTHERS, 1964
AND "SOME BLACK HILLS GHOST TOWNS AND THEIR ORIGINS," 1972;
WATSON PARKER AND HUGH K. LAMBERT, BLACK HILLS GHOST TOWNS, 1974,
DICK KITCHEN, "GHOST TOWNS THAT LOST," 1967,
IRMA H. KLOCK YESTERDAYS GOLD CAMPS AND MINES, 1973

THIS LEGEND REFERS TO THE FOLLOWING
THREE FIGURES: 9-34, 9-35, 9-36.
(Kovats 1978).

SETTLEMENT TYPES, PENNINGTON COUNTY, S.D. (1930s)

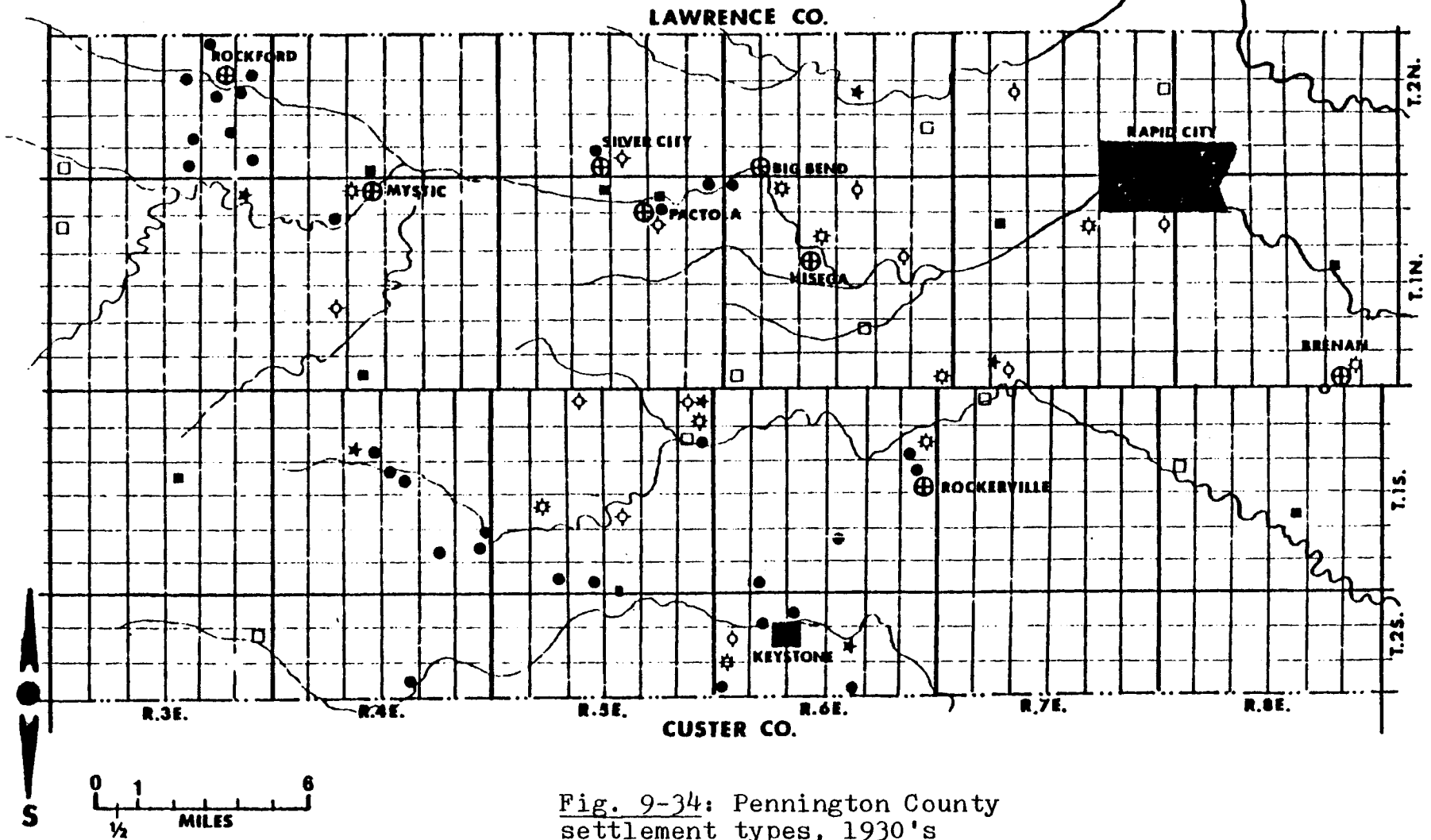
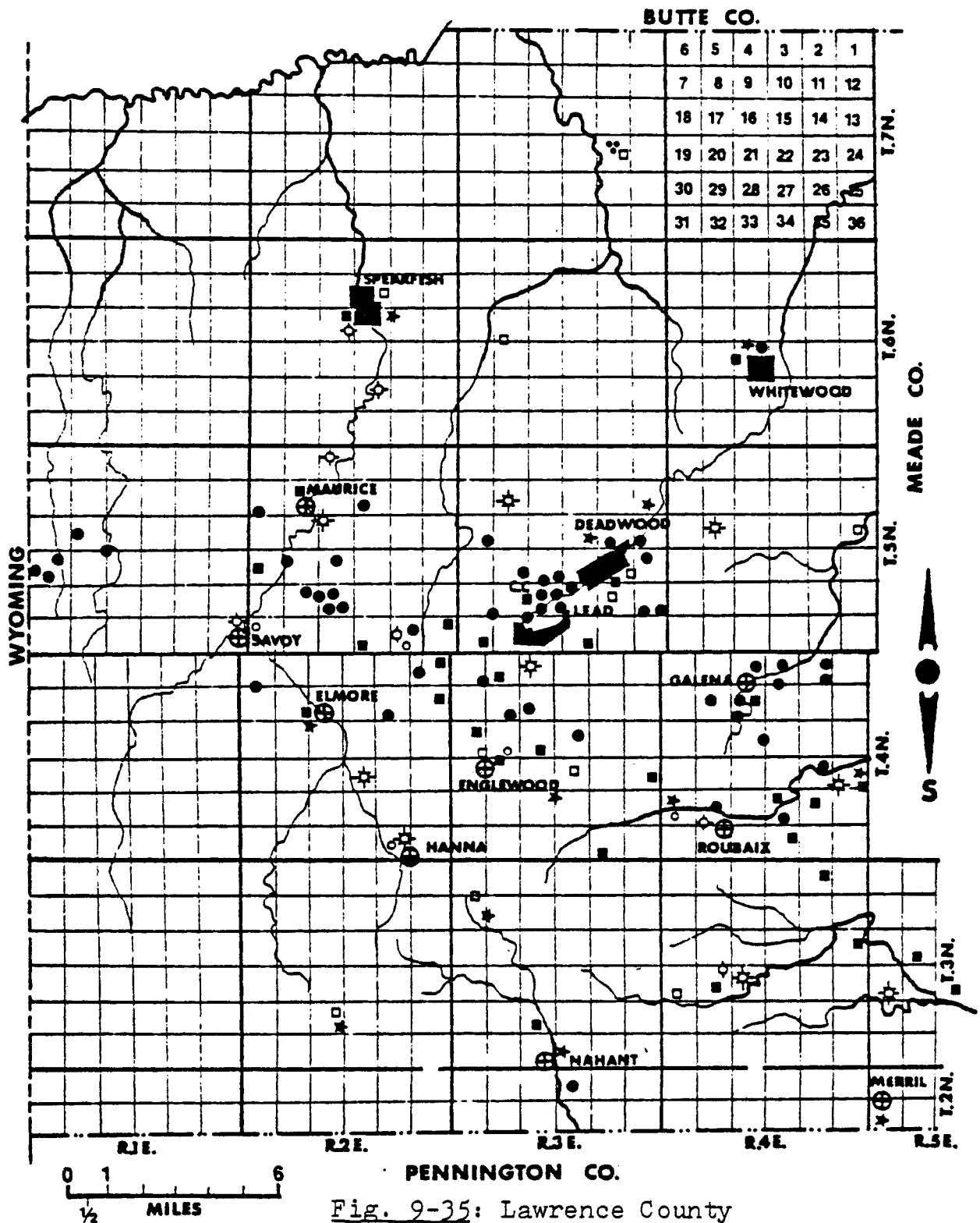


Fig. 9-34: Pennington County
settlement types, 1930's
(Kovats 1978).

SETTLEMENT TYPES, LAWRENCE CO., S.D. (1930s)



SETTLEMENT TYPES, CUSTER COUNTY, S.D.

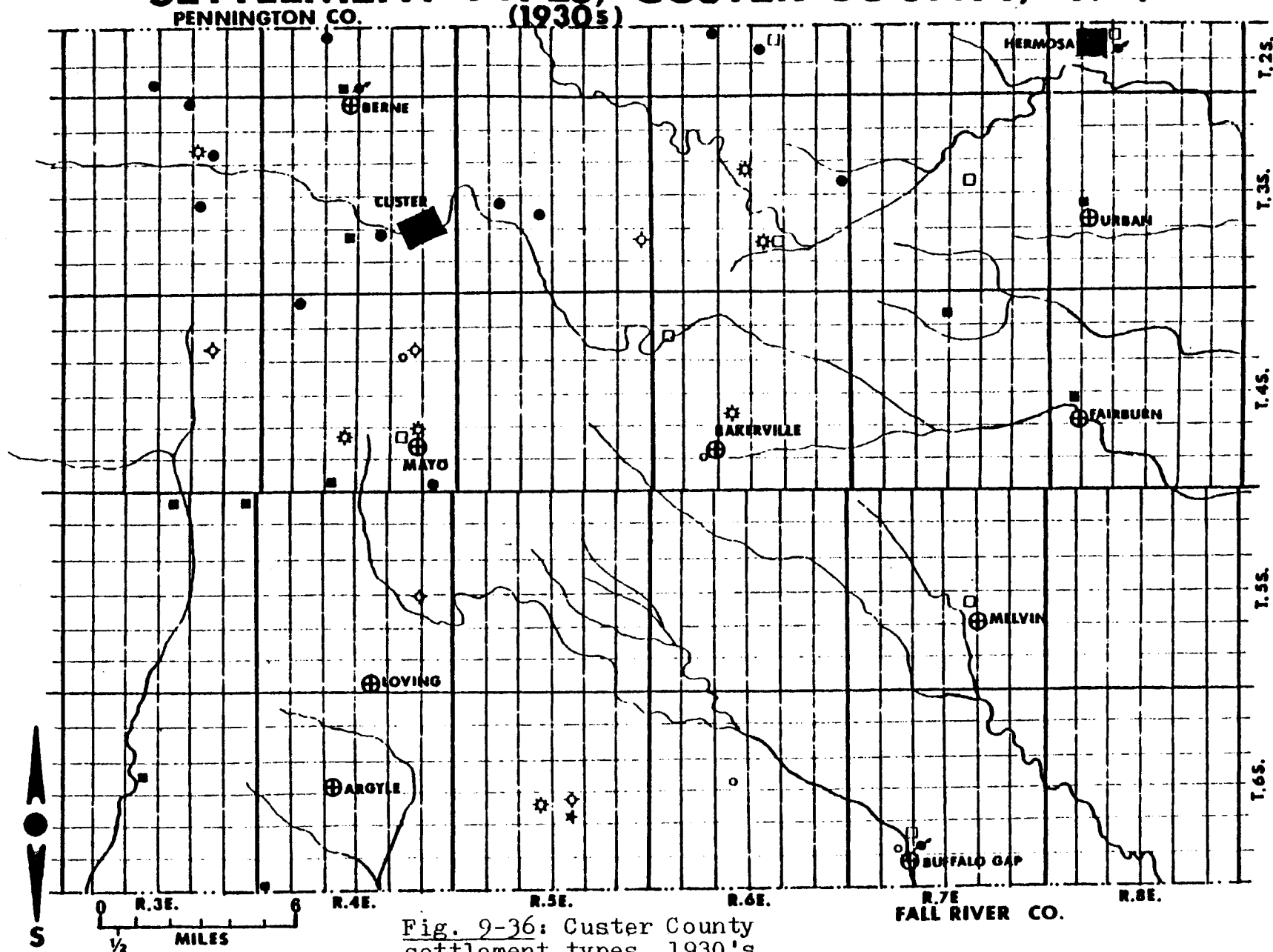


Fig. 9-36: Custer County settlement types, 1930's. (Kovats 1978).

SETTLEMENTS OF THE BLACK HILLS (1830-1930)

	LAWRENCE	MEADE	PENNINGTON	CUSTER	BUTTE	FALL RIVER	WESTON	CROOK	TOTAL
PLACER CAMPS	23		12	4					39
LODE MINING CAMPS	29		21	7				3	60
SILVER CAMPS	8								8
TIN, ETC. CAMPS	3		5	1					9
COAL "TOWNS"							2		2
STAGE COACH STOPS	6		1	5		3	2		17
RAILROAD STOPS	26	10	15	7		8	4		70
TIMBER CAMPS	15		6	1				1	23
QUARRIES	2	2	5	2		5	1		17
POST OFFICES	5	1	1	4		1	1	1	14
RESORT TOWNS	5		6	6		2			19
MILITARY POSTS		5		2		2			9
FUR POSTS	1	2	1						4
FARM/RANCH	10	5	10	7	1	3	3	1	40
CATTLE SHIPPING STATIONS		1		3	1	1	2		8
OTHERS	11	2	12	8		3	2		38
TOTAL	144	28	95	57	2	28	17	6	377

SOURCE: W. PARKER, "BLACK HILLS GHOST TOWNS AND OTHERS"; D. KITCHEN, "GHOST TOWNS THAT LOST";
L. H. KLOCK, "YESTERDAY'S GOLD CAMPS AND MINES";

Fig. 9-37: Settlements of the Black Hills, 1830-1930 (Kovats 1978).

Seth Bullock and other prominent Deadwood business concerns who owned part of the Belle Fourche townsite. Within three years, most of Minnelusa had been moved to Belle Fourche and the town was dead. A cemetery is all that remains of the site.

Belle Fourche

Belle Fourche served a vast range area north and west of the Black Hills, and was the largest cattle shipping point in the United States between 1901 and 1907. Construction of the Belle Fourche irrigation district, and creation of a sugar beet processing plant stimulated Belle Fourche's growth in the First World War era. Development of bentonite deposits west of Belle Fourche made it a mineral processing center as well (Kellar 1972; Koller 1949).

Sundance

Sundance survived without rail connections, unlike Minnelusa. Established in 1884 to supply ranching operations west of the Black Hills, Sundance became Crook County's seat of government when the county was formed in the late 1880's. At that time, it could claim two newspapers, the Gazette and the Wyoming Farmer. By 1895, Sundance was one of only five communities in the State of Wyoming with a high school. Constant efforts to secure railroad connections with the outside world were never successful. As late as 1911, there was speculation that the McLaughlin Tie and Timber Company Railroad to Moskee would be extended to Sundance. Due to its isolation and role as a county seat, Sundance was able to survive the same condition that killed Minnelusa (Crook County Historical Society 1979).

Oelrichs

Oelrichs represents yet another variation on the ranch support theme. Named for Harry Oelrichs, one of the major investors in the Anglo-American Cattle Company, the community was established in the 1880's to further a new concept in the plains cattle industry. Anglo-American cattle herds ranged south of the Black Hills, and the company hoped to create a more economically efficient operation by slaughtering cattle near the range, and shipping the processed meat east in refrigerated cars. Because Oelrichs was to be the slaughterhouse and processing point, an ice pond and ice houses were constructed there. The town hoped to develop as the county seat and the center of trade in Fall River County. But Oelrichs languished when the meat packing scheme failed, and a more vigorous rival as trade center, Hot Springs, emerged in the 1890's (Schatz 1961).

Other Trail And Rail Towns

Some Black Hills communities owed their existence to the ebb and flow of Black Hills transportation needs. Crook City was created as the gateway to the northern Hills gold region for the Bismarck, Fort Pierre and Sidney trails. As a point

where wagons and stagecoaches prepared for the long pull over the hill to Deadwood, Crook City struggled to survive with trade generated by the trail until the late 1880's. The Elkhorn's decision to build its roundhouse and yards for the Deadwood branch at Whitewood, rather than Crook City (a site unsuited for railroad development) doomed the town. Only a cemetery remains today (Fielder 1964).

Edgemont and Newcastle were created as railroad division points, and provided yards and roundhouses for branch lines. Englewood was the yard and roundhouse point for the Spearfish branch and narrow gauge mining and logging spurs to Terry Peak and surrounding areas. Mystic served a similar function at the connection between the Chicago, Burlington and Quincy and the Rapid Canyon lines. Newcastle and Edgemont were able to develop as trade centers for farming and ranching areas on surrounding prairies, and they served a major railroad link between the Midwest and Northwest. Mystic and Englewood served branch line railroads, and were located in areas too high and rugged to develop a major farming or ranching base. As a result, when the railroads died there, Mystic and Englewood died as well (Fielder 1964).

Logging Towns

Black Hills settlements dependent almost entirely on logging were destined to enjoy short lives during the years prior to World War Two. Este, Nemo, Moskee, Buckhorn and other small towns in the forest were active only as long as the sawmills ran. There have been dozens of these communities in the years since the gold rush, second only to mining camps when comparing numbers of abandoned Black Hills settlements.

Some communities not actually located at or near logging areas can also be labelled as timber oriented, usually being placed where logging railroads connected with the standard gauge Black Hills railroad system. Buffalo Gap, Fairburn and Nahant are examples of towns which flourished as terminal points for lumber shipments. Once sites with populations of several hundred and thriving commercial districts, they all went into decline with reduced rail or timbering operations. Nahant died when the McLaughlin Tie and Timber Company Railroad ceased operations at the beginning of World War One. Fairburn's golden age lasted until the end of Warren-Lamb Lumber Company rail operations from the community in the early 1930's. Buffalo Gap was also the head of the CNW's Hot Springs branch, and it survived the end of logging operations, although with a far smaller population and business district (Fielder 1964).

Hot Springs

Hot Springs, as the first tourist town in the Black Hills, also represents a distinctive community type. The warm water springs that gave the town its name were discovered by an expedition led by William Thornby of Deadwood in June of 1879. A townsite company was organized to develop the site in 1881,

and it was soon touted as the newest health spa in the West, attracting those seeking comfort offered by warm thermal springs. Really aggressive tourist promotion began in 1886 with the organization of a new townsite company, the Dakota Hot Springs Company. Railroad construction into the town, and the building of the Evans Hotel in 1891-92 by the town's most enthusiastic promoter, Fred T. Evans, brought the anticipated rush of tourist and health spa patrons to the "American Carlsbad". At the time of its construction, the Evans was the most lavish hotel in the entire region. The location of the South Dakota State Soldiers Home in Hot Springs in 1890, and the founding of Black Hills College also contributed to the Hot Springs boom, as did the building of the Evans Plunge swimming facility over one of the largest springs in the valley. Private development of Wind Cave, featuring underground tours, added to the appeal of the Hot Springs region. In the years before the automobile and Mount Rushmore, Hot Springs was unrivalled as the tourist center and health spa of the Black Hills (Tallent 1899; Clark 1927).

BLACK HILLS MINES

Easily the most complex pattern in community development surrounds the long and varied history of Black Hills mining. Major settlements associated with the gold rush have already been discussed. Dozens of other Black Hills towns, some still surviving, also owed their existence to one or more of the varied elements of Black Hills mining. To understand the relationship between the industry and community development, some broad trends and a basic chronology of regional mining should be discussed. As already noted, basic early development of the Black Hills gold rush followed a pattern similar to that of other earlier western gold rushes. By mid-1876, however, it was becoming apparent that the Black Hills might be unique in the quantity and quality of gold and other minerals it held. Subsequent developments would prove both of these early indications correct.

As it became more obvious that the Black Hills contained substantial gold deposits, experienced western mining investors began to take an interest in the gold fields there. This stage of development corresponded with Rodman Paul's third stage of gold rush evolution, when the importance of placer mining is eclipsed by investments in and development of large-scale gold deposits requiring extensive capital investment and engineering skill (Paul 1963). No development better demonstrated this process in the Black Hills than the evolution of Homestake Mining Company.

MINING DISTRICTS, LAWRENCE CO., S. D.

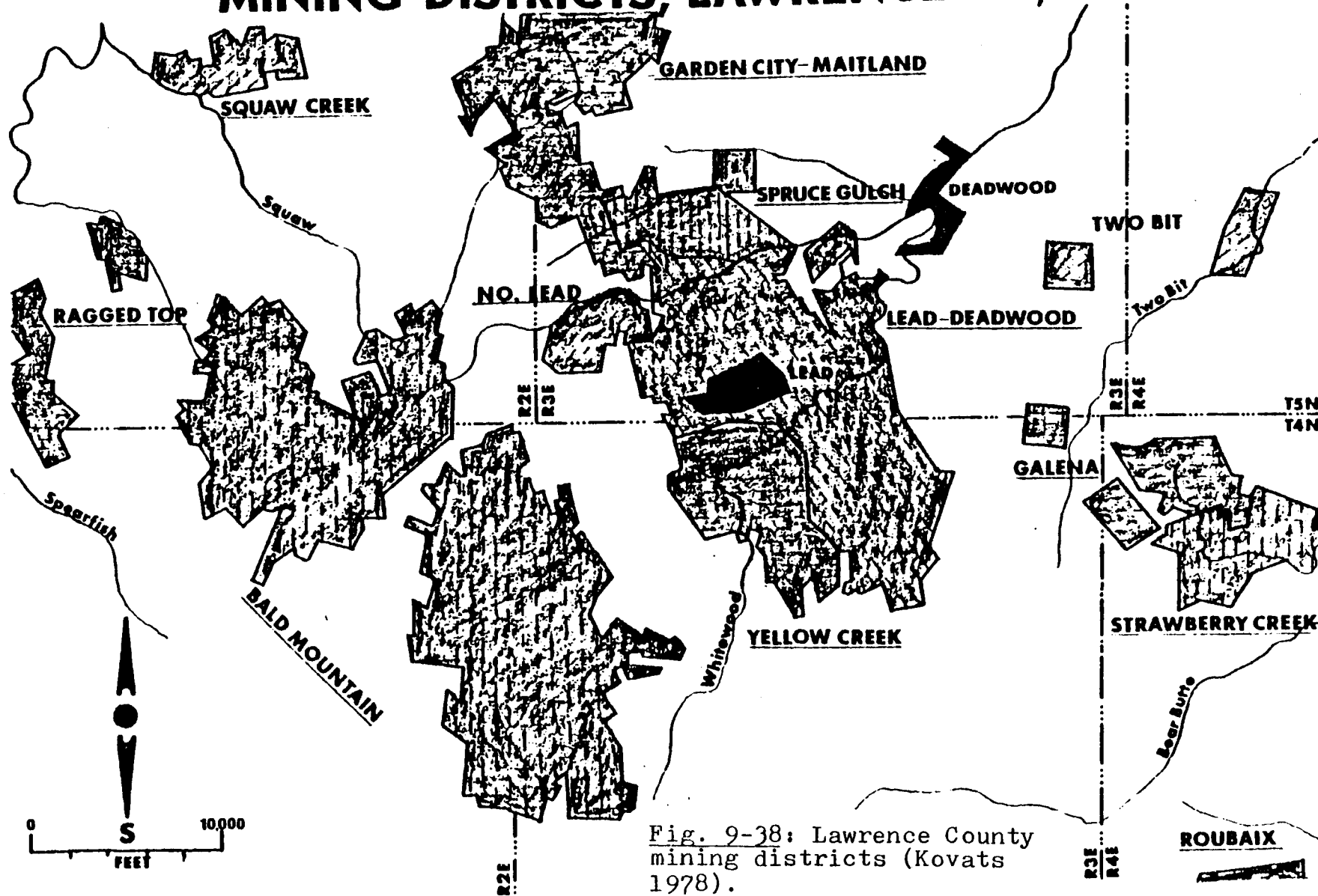


Fig. 9-38: Lawrence County mining districts (Kovats 1978).

GOLD vs. SILVER PRODUCTION, BLACK HILLS

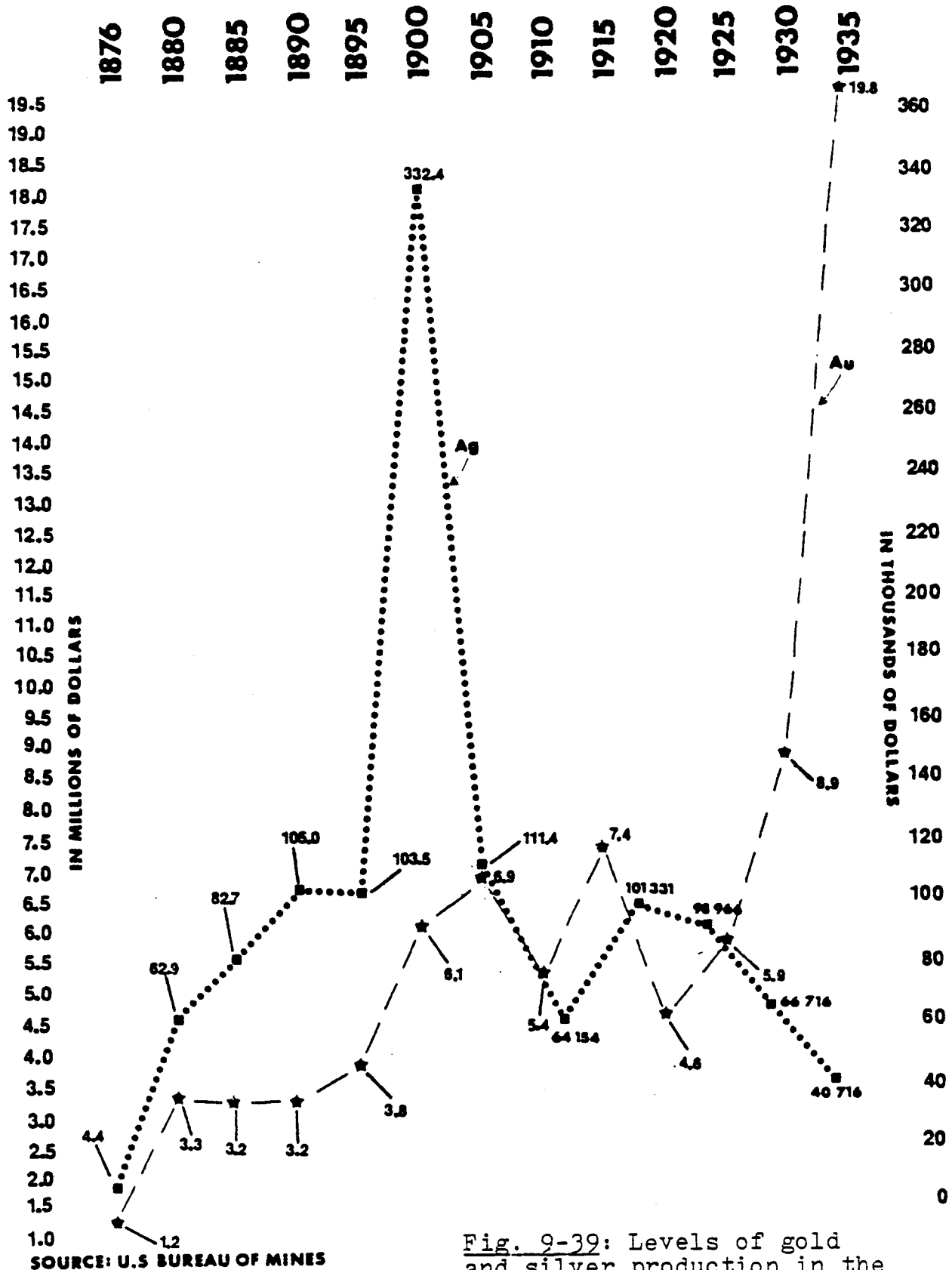


Fig. 9-39: Levels of gold and silver production in the Black Hills (Kovats 1978).

Homestake Mining Company

The Homestake Mining Company was created by three experienced San Francisco investors: Lloyd Tevis, a minor partner in the Central Pacific Railroad and President of the Wells Fargo Express and Banking Company; James Ben Ali Haggin, a successful land speculator; and George Hearst, a mining man with considerable experience in the West. When it became apparent that the Black Hills had the potential to become a major mining district, the three Californians sent L.D. Kellogg to the Black Hills in the spring of 1877 to examine properties for possible purchase. Kellogg was impressed with the mining properties near Lead, and posted a \$70,000 bond to buy the Homestake, then considered the richest claim in the Hills, from the Manuel brothers. Hearst travelled to the Hills in the fall of 1877, and he immediately confirmed Kellogg's judgement. The Old Abe, Golden Terra and other adjoining claims were purchased, and the Homestake Mining Company was born.

Hearst's approach to developing his new mining properties was based on considerable earlier experience in California, Nevada and Colorado, and it reflected the same thoroughness that characterized other Nineteenth Century capitalistic ventures such as John D. Rockefeller's Standard Oil. During Hearst's stay in the Hills over the period from fall 1877 to spring 1879, all aspects of the gold production process were carefully scrutinized. Convinced that the Black Hills gold fields could be the richest in the West, Hearst left no detail to chance. Ore bodies and mining and refining techniques were carefully examined by mining engineers in whom Hearst had confidence. Adjacent ore bodies were purchased to insure control over as much of the lode as possible. Water rights and timber resources were acquired as quickly as possible. Although the Homestake's owners were Democrats in California politics, Homestake became staunchly Republican in the Republican Dakota Territory. Hearst began arrangements for the construction of the Black Hills and Fort Pierre Railroad. Hearst's intention was to create an integrated operation capable of providing for most of its own needs and maximizing profit.

The greatest early challenge to Homestake's predominance in the region was posed by the Father De Smet Mine. Located near Central City, Father De Smet was a valuable mining property, and it controlled the Boulder Ditch Company, a water company which held many of the water rights to the upper Whitewood Creek drainage. This water supplied communities and other mining enterprises, and it was essential to Homestake's operation. Father De Smet's history was very similar to that of the Homestake, with aggressive California investors forming a syndicate and purchasing it from the hardrock miners who had discovered it. The superintendent, A.J. Bowie, followed a policy of consolidation very much like Hearst. A clash between Homestake and Father De Smet was almost inevitable, since the \$700,000 asking price for the Father De Smet was more than Homestake could afford.

Homestake's eventual victory was carved out of a battle over water rights, well-placed political and legal influence, and a quiet policy of buying individual shares of Father De Smet stock as the opportunity arose. The water rights fight was climaxed by a series of suits and countersuits which followed Homestake's purchase of Foster Ditch Company, the major supplier to Father De Smet, an action which caused Father De Smet's purchase of Boulder Ditch noted above. Territorial Judge Gideon Moody, a Homestake partisan, ruled that Homestake be required to return Foster Ditch to its original owners, and that Father De Smet sell Boulder Ditch to Homestake, leaving the struggle deadlocked. By early 1881, Homestake's other approach had succeeded. Enough Father De Smet stock was purchased to allow control of the company, and it was absorbed into the Homestake operation.

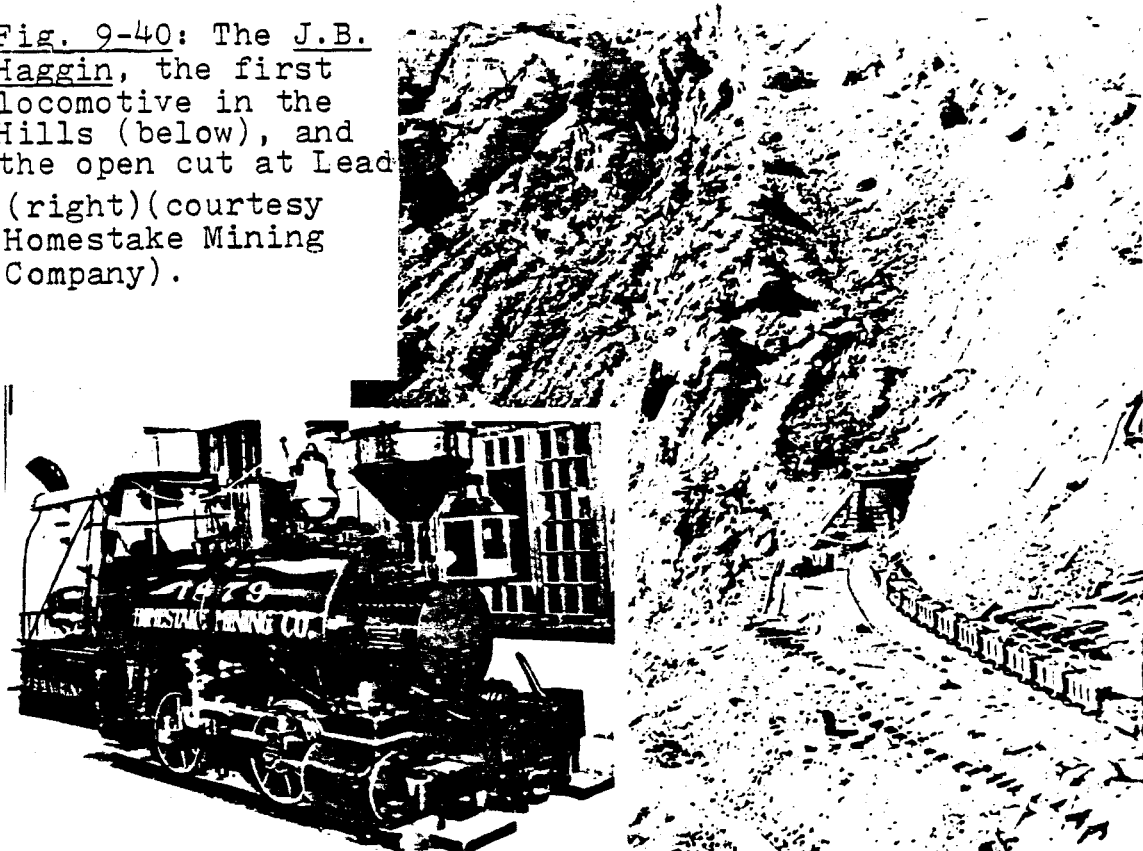
The 1880's and 1890's were great decades of growth and consolidation for Homestake. In addition to railroad construction and the purchase of additional mining claims and timber lands, Homestake acquired most of the available water rights in the Whitewood and Spearfish Creek drainages. Ultimately Homestake would own almost the entire floor of Spearfish Canyon and its tributaries from Intake Gulch to the edge of the prairie north of Spearfish. As the mine's production expanded, its needs for water, timber and other resources from the Black Hills grew rapidly. Lead evolved into a company town. Homestake owned most of the land, and all of the mineral rights beneath the town. The Hearst Mercantile was the largest retail sales store in the northern Black Hills. Homestake Mining Company touched virtually every aspect of life in Lead and the surrounding communities. By the year of George Hearst's death, 1891, Homestake Mining Company was producing four million dollars in gold bullion annually, a figure larger than the entire production of the Black Hills gold rush in 1875 and 1876.

New technology contributed to the mine's continued growth and exerted considerable impact on its holdings in the northern Black Hills during the period from the 1890's to the First World War. Boilers were converted from firewood to coal, ending demand for the vast quantities of roundwood which had fed company boilers up to that time. Cyanide, mercury and other new refining processes dramatically increased the percentage of gold recovered. Waste from these processes was dumped into Whitewood Creek, greatly compounding a serious stream pollution problem which had already begun from the sewage introduced into the drainage from Lead, Deadwood and other nearby communities. The new milling processes demanded a vastly increased water supply. They built an extensive system of diversions from Intake Gulch on main Spearfish Creek and Ward and Long Draws on the Hanna Fork of Spearfish Creek, and flumes were constructed to carry water to a pump station at Hanna.

From Hanna the water was pumped over the divide between the Spearfish and Whitewood drainages to supply needs of the mine, Lead and other communities. In 1906, Homestake built its first hydroelectric generating plant at a site near Englewood, and the process of converting the mine from steam to electricity began. Early success with electrical equipment was significant enough to justify a major hydroelectric project in Spearfish Canyon in 1908. The plan required a twelve mile diversion of Spearfish Creek through a system of flumes and a four mile tunnel built in eight sections through solid rock. At the time of its completion in 1912, the tunnel was one of the longest in the world. The plant, Hydro Number One, generated 33,000 volts when operating at peak capacity, and was located on the southern edge of Spearfish. A second and smaller plant, Hydro Number Two, was built at Maurice, and used water from Main and Little Spearfish Creeks, diverted above Savoy and carried by a system of flumes along walls of Spearfish Canyon. This project was completed in 1917. A steam electric generating plant was constructed in Lead to supplement the hydroelectric plants.

Perhaps the greatest visible effect of the Spearfish Canyon hydro project was its effect on Spearfish Creek. Stream diversion dried up Spearfish Falls near Savoy, except during high runoff from spring snow melt. Streamflows in other sections of the creek between Savoy and Spearfish were much smaller, and at some points the creek was reduced to a trickle. Perhaps the first use of wireless communication was a system installed to keep the general office in Lead in contact with construction headquarters in Spearfish during 1911.

Fig. 9-40: The J.B. Haggin, the first locomotive in the Hills (below), and the open cut at Lead (right)(courtesy Homestake Mining Company).



THE GROWTH OF THE HOMESTAKE (1878 - 1930)

	1878	1879	1880	1882	1885	1887	1890	1892	1895	1897	1900	1902	1905	1907	1910	1912	1915	1917	1920	1922	1925	1927	1930
NUMBER OF CLAIMS	2			6			12		28		96		218		241		308		401		379		502
ACREAGE OF CLAIMS	8.7			30.0			54.2		133.8		584.5		2646.5		2115.3		4334.6		6782.3		6147.8		7000.0
NUMBER OF STAMPS	80	200	580	620						700	720		900		1000				1020		1200		1600
NUMBER OF MILLS	1	2	3							4	5		6							12		8	6
MILLING CAPACITY	240	600	1660	1860		2000		2600	2700	3000	3900		4000	4100		4300			4500	4600		7490	7660
NUMBER OF SHAFTS	1				2			3						6			5			4		3	2
DEPTH OF MINES	100	400			600		700		940		1000		1250	1800			2000	2200		2370		2400	2900
TONNAGE MINED	35 000	70 000	180 000		213 000		285 700		395 500		620 400		836 000		1.5		1.6		1.3	1.6	1.5	1.4	1.3
PRODUCTION BY VALUE	1.3				1.6					1.8	4.2	5.0					7.7		4.4		5.9	6.6	8.4
FOOTAGE DRIVEN																			19 320	7 737		21 199	
UNDERGROUND WORKS	2			5		7	11		25		30	38	40		50		55		59	62	64	66	73
ORE VALUE/TON MINED	\$9.20		6.50	5.73	5.82		4.55		4.63		4.50	3.53	3.75		3.50		3.15		4.00		4.55		6.15
ORE RESERVES									10	25						30							
PAYROLL									56 000		200 000			195 000									
NUMBER OF EMPLOYEES							1500			1800	2000				2600	2500			2200				
DIVIDENDS PAID												1.1			1.3		2.2	1.7	1.5				2.1

Fig. 9-41: The growth of Homestake (Kovats 1978).

Growth of the mine during the period from 1890 to the First World War also had a great impact on its timber holdings and logging activities. These topics will be considered in the section of this report dealing with logging and forest resources.

The strength of Homestake's economic position in Black Hills mining after 1900 was underscored by its ability to survive two serious economic crises. One was a mine fire which began 25 March 1907, and required that the mine be flooded with 80,000,000 cubic feet of water. Full operation was not restored until 25 October of that year. A serious labor dispute involving an attempt by the Western Federation of Miners union to organize all major Black Hills gold operations resulted in a lockout by Homestake and several other Black Hills mines. The lockout disrupted production from late November 1909 until March 1910. In the long run, neither the mine fire or the labor dispute caused serious economic damage to the Homestake operation.

One other potentially serious problem, the shortages of adequate gold ore, was alleviated by the purchase of the Oro Hondo Mining Company, south of Homestake's holdings, at the close of the First World War era in 1920. Oro Hondo would yield vast quantities of good ore in the years to follow (Cash 1973; Fielder 1970; Bronson and Watkins 1977; Parker 1981).

Homestake's consolidation efforts did not extend to many of the widely scattered mining properties in the Black Hills. By 1880, various mining districts in the Black Hills included thousands of recorded claims. No comprehensive volume on the history of Hills mining exists, and once the student of

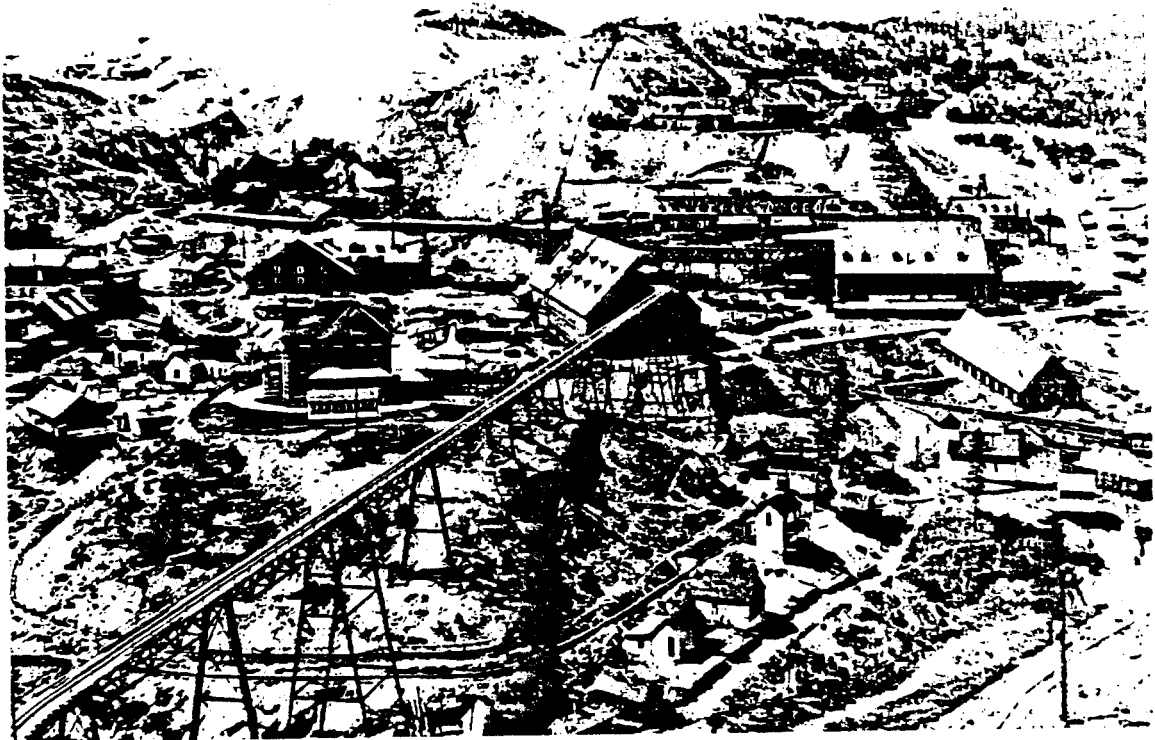


Fig. 9-42: The Homestake at Lead ca. 1900 (courtesy Homestake Mining Company).

Hills mining history leaves the subject of the Homestake, the picture becomes very complex. For the sake of simplicity, the following discussion will consider some examples of gold mines and mining. No attempt will be made here to consider the hundreds of working mines, large and small, which have existed in the Black Hills. A few mines will be examined as illustrations of broad themes in the regional mining history.

The gold lodes in the Lead-Deadwood area are the richest ones in the Black Hills, but they have always had to compete with scattered ore deposits in other parts of the Hills. Presence of these deposits has always suggested the possibility that other major ore lodes may exist. Gold prices, costs of production, availability of investment capital, and major changes in mining technology have all contributed to continuing attempts to exploit these ore deposits. In some areas of the Hills, these factors have created a sort of boom and bust cycle as optimism based on one or more of the above factors triggered a burst of mining activity, followed by unfulfilled expectations and, perhaps, eventually another burst of optimism. The mines in the Rochford region provide an excellent illustration of this process.

Rochford Area Mining

Rochford began life as a placer mining camp in 1877. Following the familiar pattern, experienced miners were soon searching for gold leads among the rock outcrops on neighboring ridges. A number of discoveries resulted in a hardrock mining boom. Mines, including the Standby, were soon operating, and the district had a population of 1,000.



Fig. 9-43: View to the NW up Smith Gulch past the Standby Mill to the town of Rochford (Dave Miller photo).

Rochford itself included two hotels, five general stores and two newspapers. The Standby operated forty gold stamps and maintained an elaborate residence, "The Mansion", for the comfort of company officers and engineers. A system of flumes was constructed to supply water to the mill. By the early 1880's, the Standby and most of the buildings in Rochford were empty. Belief that the new chlorination and cyanide refining process might yield new profits brought a second burst of activity ca. 1900. The Standby Mill was expanded and improved. Prospects failed to materialize, and most Rochford District mines were closed. Subsequent attempts were made to reopen the Standby in the 1920's and 1930's. As recently as 1982, encouraged by higher gold prices, engineers from the Home-

stake examined the Standby properties (then under lease) for possible exploitation.



Fig. 9-44: View to south of the Standby Mill in 1982
(Steve Cassells photo).

Several other mines in the Rochford District, such as the Alta and the Minnesota, experienced boom and bust cycles similar to that of the Standby. Each attempt at reopening produced its own impact on the surrounding environment. New roads were built, flumes constructed and another generation of artifacts introduced. The Standby is a classic example of this process. The mill, probably the best surviving example of a large wooden gold mill in the Black Hills, combines original 1880 vintage gold stamps and timbers fastened with square wrought iron nails, to a gasoline automobile engine ca. 1930, used to power stamps during the last period of operation. (Tallent 1899, Parker and Lambert 1974; Fielder 1970; Kovats 1978).

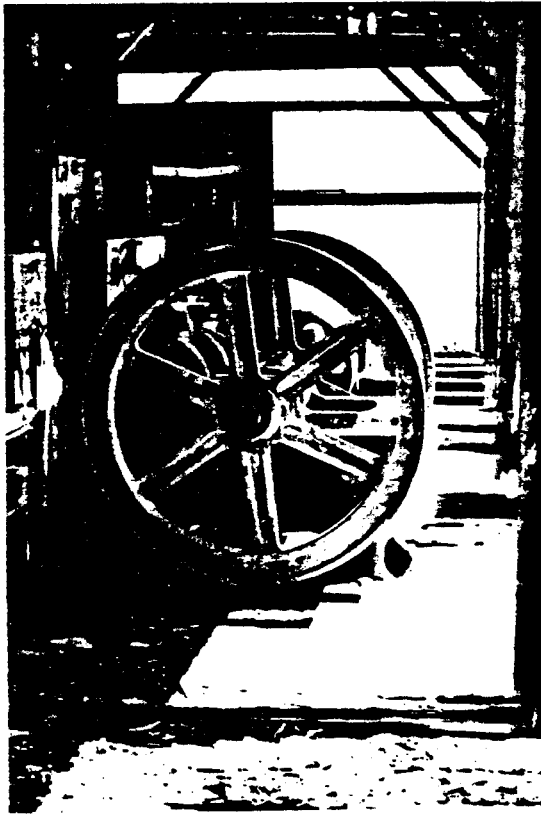


Fig. 9-45: Flywheels at the Standby Mill, typical of the vast quantity of machinery hauled hundreds of miles, at great expense, to serve the local mining industry (Dave Miller photo).



Fig. 9-46: The Cochran Mill, a ca. 1917 plant that was part of the Alta Lodi Mining Company near Rochford (Steve Cassells photo 1982).

The creation of the Golden Reward Mining Company, near Deadwood, grew out of a successful effort to solve one of the most frustrating problems faced by Black Hills gold miners in the 1880's. Among the vast number of mining claims were many that contained large quantities of gold which could not be refined. The so-called "blue" or siliceous (non-free milling) ores could not be efficiently worked with stamp mills and recovery processes similar to those then in use by Homestake and Father De Smet. Experienced mining investors left these ore deposits to others. Local Black Hills mining promoters, however, continued to be intrigued by the blue ores.

This interest led to the organization of the Golden Reward Mining Company by Harris Franklin, Seth Bullock and a number of other Deadwood businessmen. My this time, Homestake controlled most of the free milling ore deposits in the immediate Lead-Deadwood area, and the siliceous ore bodies seemed to offer the only opportunity for new mining developments in the Hills.

DENSITY OF GOLD MINES, LAWRENCE CO., SOUTH DAKOTA, 1930s

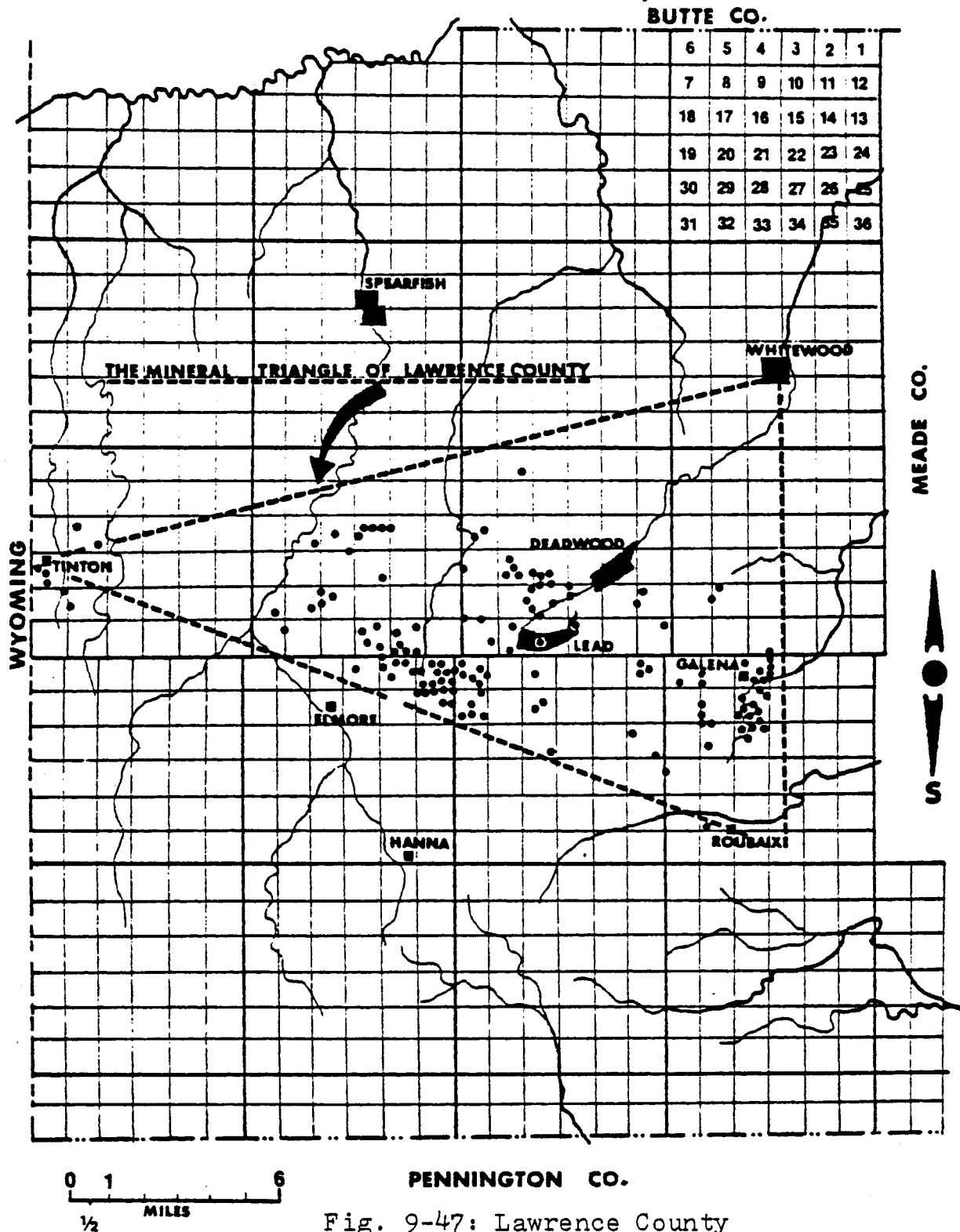


Fig. 9-47: Lawrence County gold mines (Kovats 1978).

MINING COMPANIES & MINERAL LANDS LAWRENCE COUNTY, S.D.

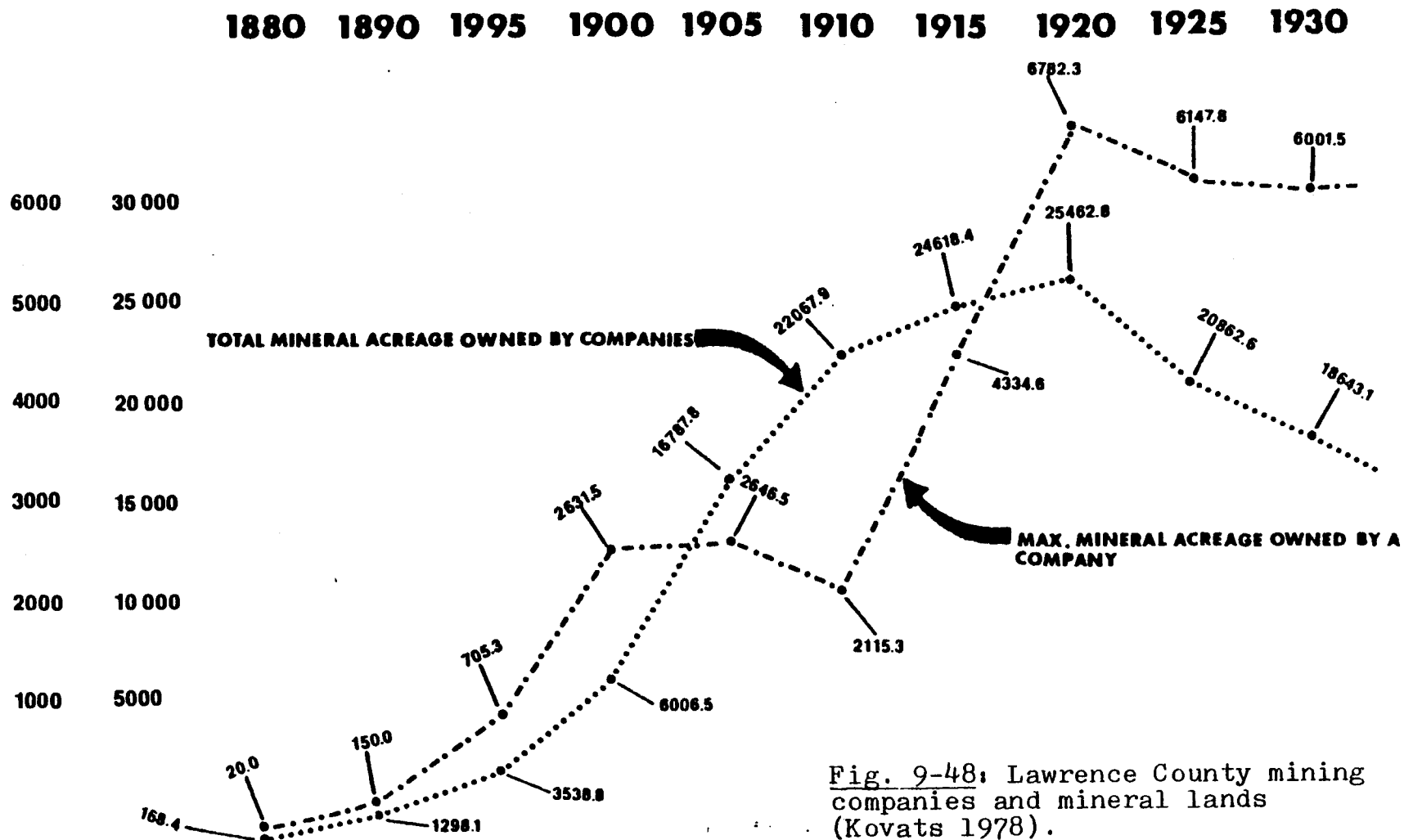


Fig. 9-48: Lawrence County mining companies and mineral lands (Kovats 1978).

Encouraged by reports that a California mining engineer named Clark had successfully refined similar ore by a process using chlorine, the Golden Reward investors organized to lure Clark to Deadwood. By 1890, Clark had constructed a works in Deadwood and had successfully refined some Black Hills ore. On the basis of this success, Golden Reward was able to attract large amounts of eastern capital for expansion. Its success stimulated a new mining boom in the Black Hills, as a number of mines were opened to capitalize on the advanced technology. Before the Golden Reward closed in 1918, it had produced almost \$25,000,000 worth of gold and several million more of silver.

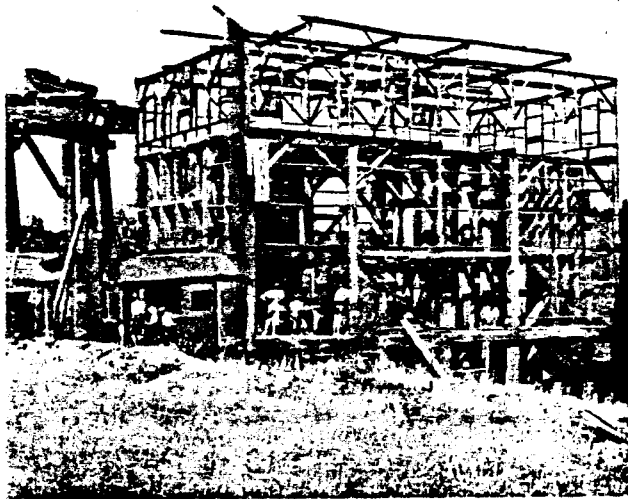


Fig. 9-49: A Golden Reward chlorine process mill at Astoria, southwest of Lead (Parker and Lambert 1974:18).

Unlike most of Homestake's operations, Golden Reward's mines and its refining facilities were separated by considerable distance. The company's Ruby Basin ore sources were a scattered series of mines located

on a divide between Fantail and Stewart Gulches. During the 1890's, much of the ore raised came up the Tornado shaft in the town of Terry. Most of the custom ore refined by Golden Reward came from the same general area. From the Ruby Basin, the ore was carried by rail to the Deadwood site. Both the Burlington and Northwestern railroads served the Golden Reward. Before rising costs and labor shortages of the World War I era closed the Golden Reward in March of 1918, it was able to operate profitably on ore that assayed as little as six dollars a ton. Its success contributed to the rise of additional mining operations. The Wasp, the Mogul, the Golden Crest, the Oro Fino and various Bald Mountain mines are examples of these "spin-offs", with some managing to operate as late as the 1950's. Remains of the Golden Reward mill in Deadwood (Fig. 9-25) survive as the impressive stone footings and railroad grades located next to the Lead-Deadwood Sanitary District's Sewage Treatment Plant in lower (north) Deadwood (Miller 1977).

Silver, almost always a by-product of Black Hills gold refining, created a few mines and communities of its own in the Hills. Named for some galena lead ore deposits in the area, the town of Galena began in 1876 as a silver camp. It was developed around the Florence Mining Company by St. Paul (Minn.) capitalists, and prospered for a time in the 1880's. As the price of silver shifted frequently in the 1890's, Black Hills silver mines became unprofitable and were abandoned. Silver mines around Carbonate Camp were able to operate after 1900 by mining high quality ore, but ultimately the Black Hills silver mines were victims of low

silver prices and high costs of production by the beginning of World War I (Tallent 1899; Parker and Lambert 1974; Fielder 1970; Kovats 1978).

Better silver market conditions occasionally breathe some life into the Black Hills silver industry. Homestake Mining Company's silver mine near Galena has operated as recently as the late 1970's.

Market price conditions were also responsible for the Black Hills' first great tin boom in the years after 1880. Rising world demand for tin, and exhaustion of traditional sources such as the Cornish mines, created widespread interest in all known sources of tin. Black Hills tin deposits were located in the late 1870's, and mining promoters gave them extensive publicity in the mid-1880's. To exploit this promising new source, British investors created the Harney Peak Tin Company Ltd. Focus of their activities was the region around the Etta Mine near Harney Peak. During the decade that

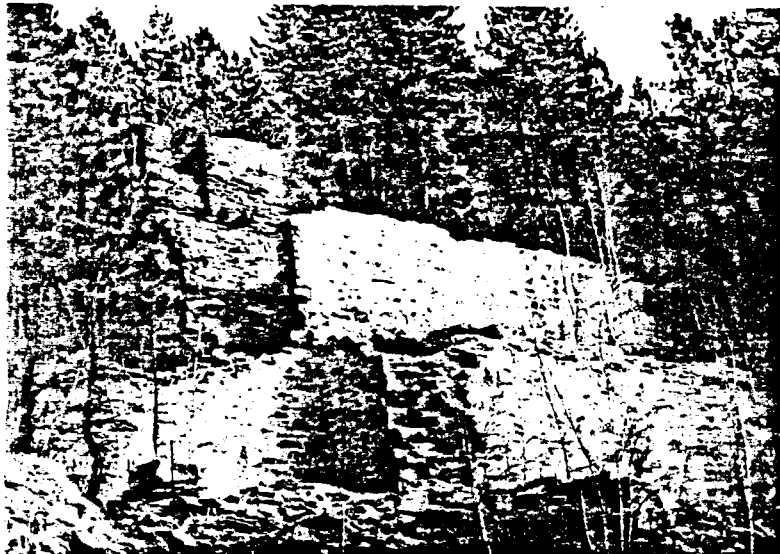


Fig. 9-50: The tin smelter remains at Etta (Parker and Lambert 1974:88).

followed, the company would purchase hundreds of tin claims in the Hill City and Custer areas, build an impressive mill just east of Hill City, and spend several million dollars for construction, development and promotion. Tin production was never significant, and the company failed at the turn of the century. The possibility that some assays were falsified has intrigued historians. Location of additional and large tin reserves in other parts of the world, from Malaya to

Bolivia, also dulled enthusiasm for less profitable deposits, such as those in the Black Hills.

World War II sparked another tin boom in the Black Hills. The Japanese conquest of Malaya and the subsequent American tin shortages brought an active effort to develop deposits near Tinton in the northern Black Hills. When the war ended, the second tin boom collapsed, and the Black Hills Tin Company suspended operations. Tinton became the Black Hills' newest ghost town, and the only one featuring Walt Disney characters, such as "Dumbo, the Flying Elephant" painted on the walls of an abandoned nursery (Jackson 1966; Parker and Lambert 1974; Fielder 1970).

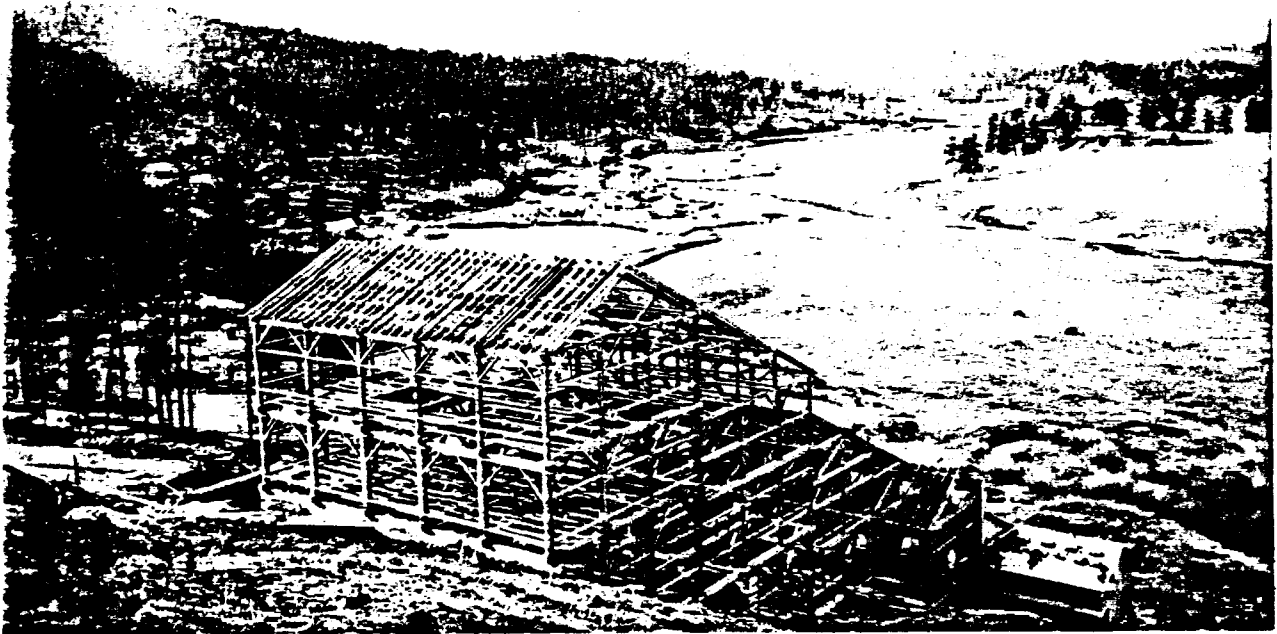


Fig. 9-51: This photo is of the Harney Peak Tin Company's Hill City mill, located a mile east of Hill City, under construction in the 1890's. The Black Hills tin boom was an example of influences other than gold mining which have impacted Black Hills mining history. Footings of the mill remain on the site (photo courtesy Rapid City Public Library).

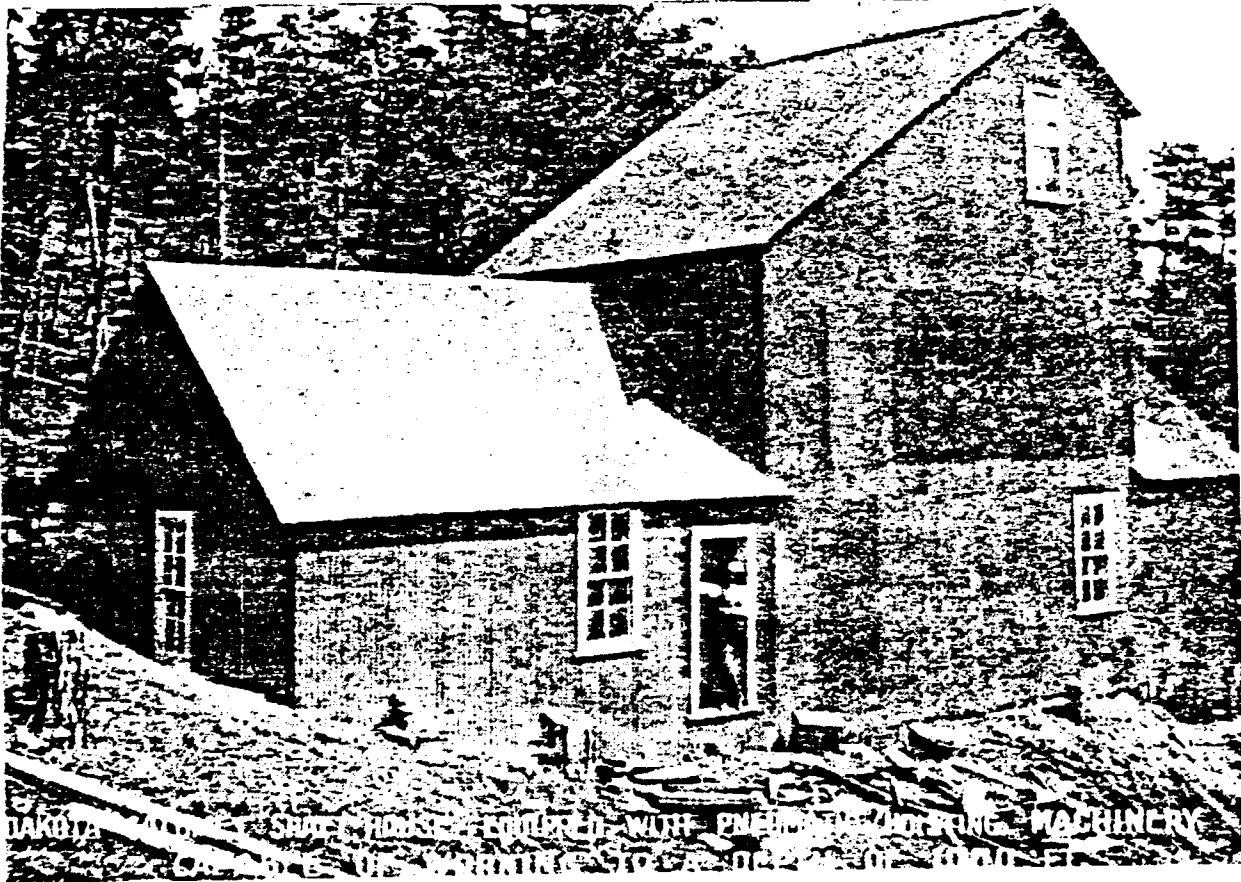


Fig. 9-52: The Dakota-Calumet shaft house on Calumet Ridge, ca. 1903 (Baldwin 1904:186).

Among other minor minerals exploited from the Black Hills was copper, taken from Bluelead (or Copper) Mountain near present Sheridan Lake. The mine and smelter there date from 1900, with operations continuing until ca. 1925 (Baldwin 1904).

Smelters and the coming of the railroads created coal mining communities such as Aladdin and Cambria. Cambria was founded in 1889 in order to supply coal for Burlington and Missouri River locomotives, and existed as a company town on the Wyoming side of the Hills. Employing over 500 men by 1904, the mines were worked primarily by immigrant labor including Greeks, Italians, Macedonians and Slovenians. As a recreation center for officials and engineers, the Flying V Ranch, an ornate stone structure, was constructed nearby. Cambria was abandoned in 1928 when coal veins became too thin to be worked efficiently.

Mica, Quartz and feldspar deposits in the southern Hills around Custer have been exploited periodically for a century. Pacer Mining Corporation continues active mining operations for these minerals. The South Dakota State Cement Plant at Rapid City uses limestone, taconite, gypsum and a variety of

Black Hills minerals. Uranium mines have been periodically active in the southern Hills near Edgemont, and in the Bear Lodge Mountains of Wyoming since the 1940's (Wyoming Recreation Commission 1977; Hendrickson 1977; Firestone 1980; Kovats 1977).



Fig. 9-53: Evidence of the fact that Black Hills mining is not limited to gold, and that it progressed from generation to generation is this beryllium processing mill at Oreville, on the railroad between Custer and Hill City (Dave Miller photo).

Mining Summary

As the preceeding pages indicate, mining will be a continuing theme in the future of the Black Hills, and its influence remaining significant in the culture of the Hills. Most of the minerals mentioned above still exist in substantial quantities there. Given a significant change in pricing or technology, or a growing demand and dwindling supplies, new mining enthusiasm and a cycle of boom and bust could easily be triggered again for some Black Hills communities. Federal mining law allows for the constant possibility that those minerals in the National Forest and on other Public Lands will still be available and attractive to developers. Recent proposals by Pittsburgh-Pacific Corporation to mine taconite in the Nemo area, and uranium explorations by Homestake and a number of other exploration and development corporations, provide examples of these possibilities. Current reprocessing of abandoned gold mine tailings in the Annie Creek drainage could result in widespread development of long abandoned properties, including some for which mining patents have

lapsed, causing them to revert again to Public Land within the Black Hills National Forest. Recent operations along Whitewood Creek indicate that even hydraulic mining, only attempted seriously along Castle Creek near Mystic at the turn of the century, could become significant in future Black Hills mining. The turn of the century failure in hydraulic mining was due to water shortages and technology inadequate for the task. Newer methods may solve some of the problems too complex for earlier days.

It is difficult to overstate the significance of mining and related activities in an assessment of the cultural resources on the Black Hills National Forest, and the Black Hills as a whole. Unlike many mining regions, the Black Hills are almost unmatched for their diversity and intensity of mining activity in the past, present and, potentially, the future. Even when Nineteenth Century promotion exaggeration is discounted, the boasting about the Black Hills as the richest region of comparative size on earth contains a message of importance to the student of the history and culture of the region (Kovats 1978; Miller 1982).

TRANSPORTATION AND COMMUNICATION

Mining frontiers posed the most difficult challenge to the developing transportation network of the Trans-Missouri West during the Nineteenth Century. Unlike the fur trade, the mining industry required vast quantities of machinery and other heavy and expensive material. The mining regions were usually located in areas of rugged terrain, far from established transportation routes. The psychology of mining promoters required that their transportation problems be solved and that the solutions come as rapidly as possible. The actual cost of these solutions was often much less of a consideration than was true in the creation of transportation networks intended to serve regions not dependent on mining. Consequently, roads and railroads frequently travelled along routes in mining regions which no sane engineer would have approved under any other circumstances. Luxury was also a characteristic of transportation accommodations in many developing mining regions, especially after gold and silver deposits were identified as potentially large (Paul 1963; Greever 1963).

In some respects, the transportation network developed to serve the Black Hills frontier fit the pattern outlined above. In other respects, the Hills were unique. The isolation of the Hills posed some of the problems common to other Western mining frontiers. Within the Hills, roads and railroads found no problem of geography too great to be overcome. The Hills would eventually boast some classic examples of mountain roads and railroad grades. But, as a major mining frontier, the Black Hills went without railroad connections to the outside world longer than any other important western mining frontier, except for Montana. The Montana gold fields were

thousands of miles from the nearest railroad when the Alder and Virginia City rushes began. The Custer expedition in 1874 travelled to the Black Hills when two railroads were already within three hundred miles of the area. However, sixteen years would pass before the first train reached Deadwood from the outside in December of 1890. During the intervening years, travel to the Black Hills could be described as exciting, but the expression "luxury" would never be applied to the Black Hills routes in the pre-railroad era. And even during the railroad years after 1890, Black Hills transportation connections with the rest of America would never be better than second-rate.

Stagecoach and Freight Lines

Given the conditions outlined above, stagecoach and freight wagon trails were as important to the Black Hills as to any region in Western mining history. Deadwood became the hub of Black Hills transportation in the stagecoach era, but virtually every important Black Hills community had its own wagon and stagecoach facilities. Among these, the Cheyenne - Deadwood route has received the most attention from historians, resulting in a distorted view of the structure and relative importance of various overland routes to the Black Hills. Cheyenne to Deadwood was very significant in the early gold rush days, but other roads to the Hills soon eclipsed it in every category. Sidney to Deadwood probably carried a larger volume of passengers and freight in the years up to 1879. The Fort Pierre to Deadwood trail was always important, and after the Chicago and Northwestern R.R. reached Pierre in 1880, it became the foremost route to the Hills throughout the remainder of the stagecoach and freight wagon era. In the period up to 1880, the Bismarck to Deadwood trail could boast the services of the Northwestern Express Stage and Transportation Company. Well-organized and very competitive, this company allowed Bismarck to exploit its Northern Pacific Railroad connections as an important gateway to the Black Hills. Several other routes of lesser importance were also contenders for the regional trade, and an analysis of all these routes to the Hills follows.

Cheyenne to Deadwood

The Cheyenne-Deadwood stage route was the earliest major road to the Hills, but its length and the terrain it crossed placed it at a great disadvantage as other trails were developed into the area. Following two different paths through the Hills, one prior to 1878 and the other in later years, the Cheyenne-Deadwood service has captured the imagination of regional historians more than any other stage route.

The Cheyenne-Deadwood service was born in December 1875 when the Wyoming territorial legislature authorized a stage line from Cheyenne to the Black Hills. The Yates Stage Line



Fig. 9-54: A Black Hills ox team resting in a Lead City street after the long climb from the prairies. For fifteen years in some Black Hills mining districts, these freight wagons represented the best transportation available (courtesy South Dakota State Historical Society).

was organized shortly afterward in January 1876. The original route entered the southern Hills via Red Canyon and continued to Custer. This stage run continued under the name Brown and Company only for a short time before the operation was purchased by Gilmer, Salisbury and Patrick a month later. Named for John Gilmer, Monroe Salisbury and Mathewson T. Patrick, this partnership had already operated successful stagecoach lines all over the Pacific Northwest. They hired Luke Voorhees to survey the line all the way from Cheyenne to Deadwood. Six hundred horses and mules and thirty new Concord coaches were ordered to provide service on the line. The first new equipment was on the line 3 April 1876, and daily departures from Cheyenne were soon scheduled. Carrying passengers both inside and atop the coach, single runs with eighteen to twenty passengers were possible. The coaches were pulled by six horses, could carry 4,000 pounds of express in the boot, and were capable of eight miles per hour under favorable conditions. A trip to Deadwood required about four days. There were a number of Indian attacks on stages in 1876 and 1877, and several successful or attempted robberies. Because Red Canyon was the site of many of these attempts, the Cheyenne-Deadwood was shifted to a more westerly route following Horsehead Creek in 1878.

Mail, freight and gold bullion shipments also provided considerable traffic on the Cheyenne-Deadwood route until the late 1870's. The most colorful aspect of this was the armored treasure coach, "The Monitor", designed to carry gold bullion shipments to the rail connections at Cheyenne. This coach was successfully robbed only once, in September of 1878, at the Canyon Springs stage station near present Four Corners, Wyoming. The robbers captured the stocktender at the station, and then ambushed the coach when it arrived. Most of the \$27,000 in coin, jewelry and bullion taken was subsequently recovered, and the majority of the attackers were killed or captured. In 1880, mail and bullion shipments were shifted to shorter, more convenient routes with easier grades, via Sidney and Fort Pierre. As early as 1877, wagon freight also shifted, with the addition of the Bismarck-Deadwood trail. Nevertheless, some passengers tended to favor the Cheyenne-Deadwood route, and daily stage departures from Cheyenne continued as late as 1884. By this time Gilmer and Salisbury had sold out to Russel-Thorpe. When rails reached Chadron, Russel-Thorpe abandoned the southern portion of the line and began, in December of 1885, an operation which connected Hat Creek on the Chadron-Rapid City route with Rawhide Butte, near Lusk, Wyoming, and continued to Deadwood along the old established route. The arrival of the Fremont, Elkhorn and Missouri Valley in Rapid City in July 1886 ended service over almost all of the old Cheyenne-Deadwood route. "The Monitor" was then sold to William F. Cody's Wild West Show, and appeared in hundreds of performances in the U.S. and Europe (Tallent 1899; Spring 1949; Klock 1979).

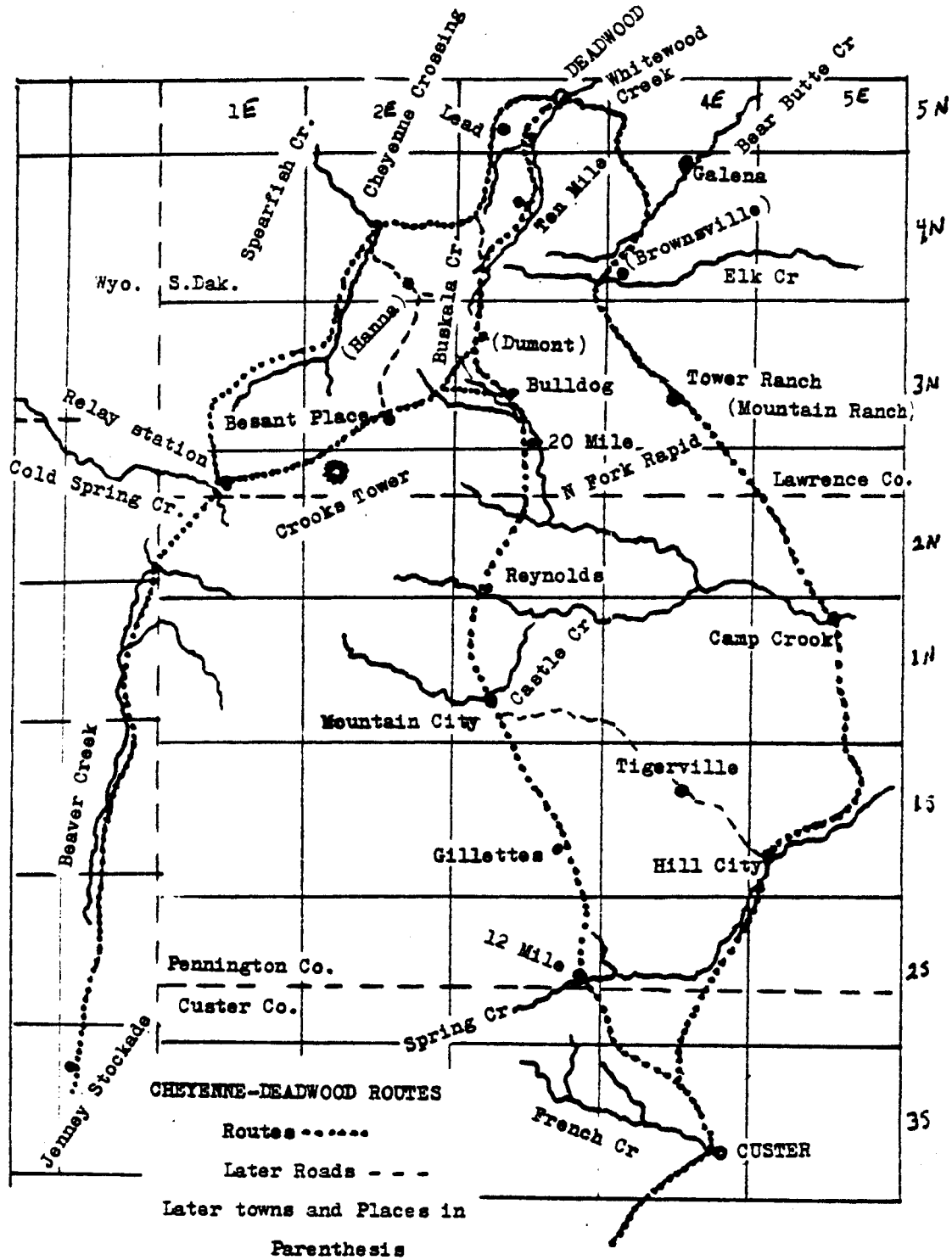


Fig. 9-55: Cheyenne-Deadwood routes (Klock 1979).

Sidney to Deadwood

The Sidney-Deadwood trail has received less attention from historians, but its importance to Black Hills history is equally as great as Cheyenne-Deadwood. Sidney, Nebraska was born in 1867 as one of the series of camps which grew as the Union Pacific construction crews toiled west. In 1874, the town became an important shipping point for annuities to Red Cloud and Spotted Tail agencies. This connection made Sidney a natural jumping-off point for the Black Hills. J.W. Dear, a trader with the agencies, attempted to establish stagecoach service between Sidney and the Black Hills in early 1876. A major shortcoming of this route was the problem of crossing the North Platte River. Traffic on the Cheyenne-Deadwood trail could take advantage of the government bridge near Fort Laramie. The Sidney trail was only able to come into its own when H.T. Clark constructed a bridge across the North Platte at Bridgeport, Nebraska in December 1876. This allowed Sidney to claim of having the shortest route to the Black Hills. Gilmer and Salisbury were quick to see this advantage, and they purchased the Western Stage Line which was operating over the route in the spring of 1877. In 1880 Sidney became the point of origin for Black Hills mail delivery. The Bridgeport bridge also made Sidney a major Black Hills freighting point until rail reached Pierre in November 1880. Some of the better-known Black Hills freighting outfits, including Pratt and Ferris; Dougherty, Kelley and Company; and Jewett and Dickinson, operated on the Sidney-Deadwood trail during the years from 1877-1880. Sidney was abandoned as a stagecoach terminal after rails reached Chadron in the summer of 1885 (Tallent 1899; Klock 1979).

Fort Pierre to Deadwood

In terms of total freight tonnage, the Fort Pierre-Deadwood trail probably was the most important connection between the Black Hills and the outside world. The Fort Pierre route was the shortest one to the Black Hills, but it lacked the railroad connections of Cheyenne, Sidney and Bismarck until late 1880. Steamboats forwarding passengers and freight from Yankton and Sioux City supplied most of the Fort Pierre traffic until that time. River conditions made the Fort Pierre route less reliable than some of its competitors. Beginning as early as July 1876, stagecoach service operated intermittently on the Fort Pierre route. Until the arrival of railroad service in Pierre, stage lines were not successful on this route. Shifting of the Wyoming Stage Company and the Northwestern Express State and Transportation Company to Fort Pierre in 1880-1881, and the concentration of mail contracts on this route made it the most important one to the Black Hills from 1882 to 1885. After that date, the Northwestern Company operated from Rapid City to Deadwood, and when railroad construction began west of Rapid City, the stage route picked up from the end of the tracks and proceeded to Deadwood.

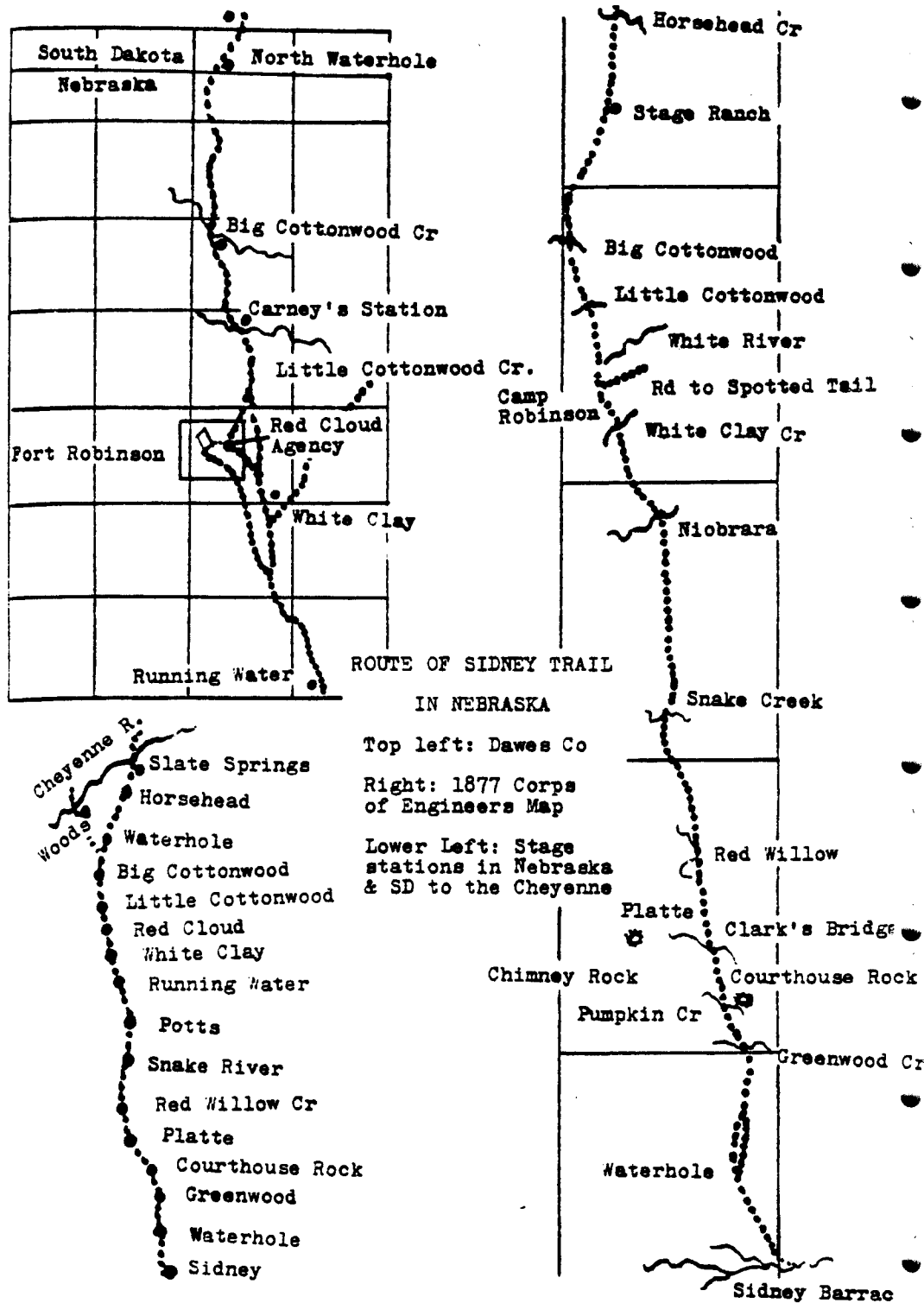


Fig. 9-56: The Sidney-Deadwood trail in Nebraska (Klock 1979).

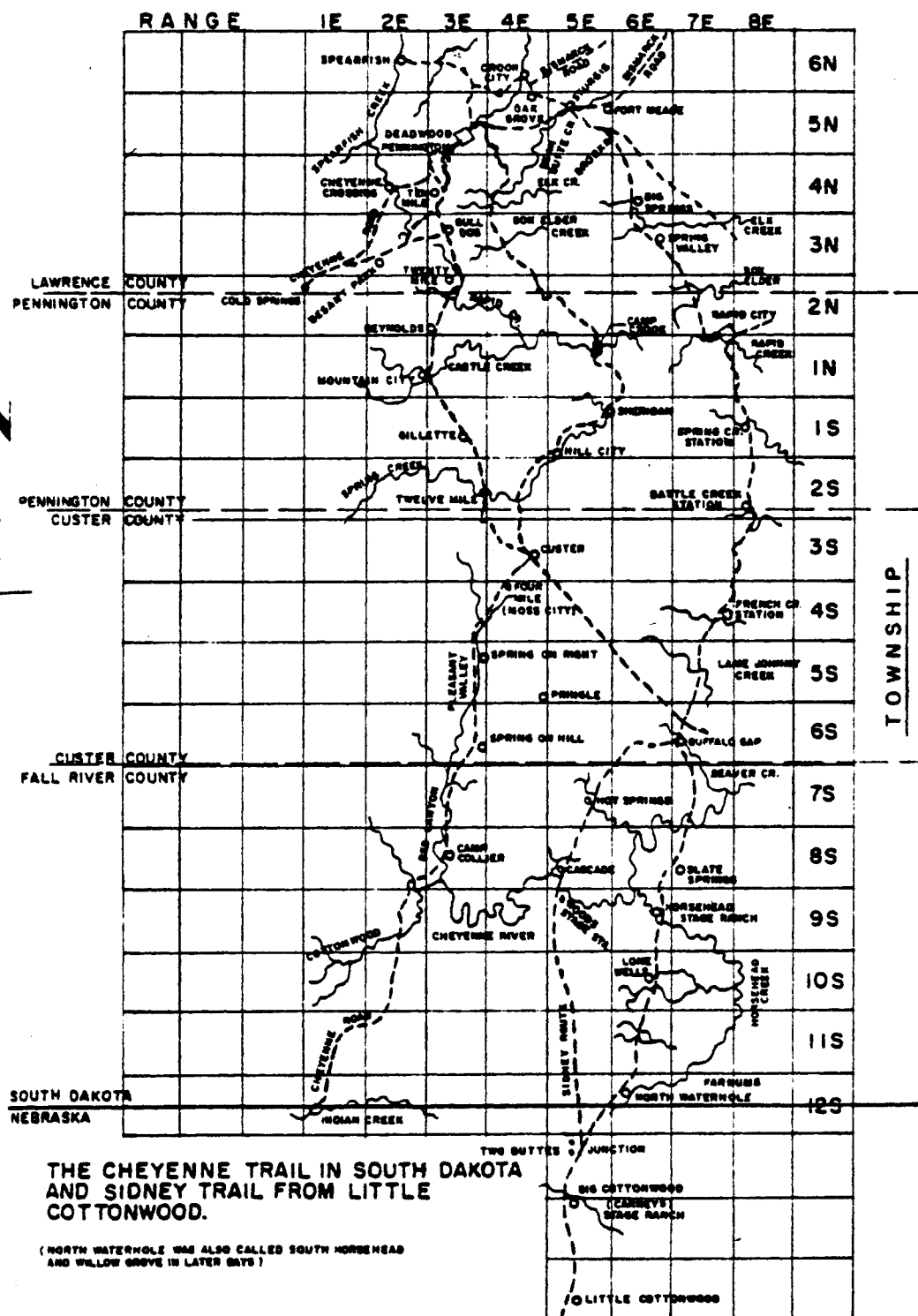


Fig. 9-57: The Sidney trail and Cheyenne trail, primarily in South Dakota (Klock 1979).

In late 1888, the Northwestern abandoned service, and traffic to Deadwood was carried by local hacks until rail connections were completed in December of 1890. Wagon freighting on the Fort Pierre trail was significant from 1876 until 1888. Bramble, Miner and Company, and the Fred Evans firms were most prominent before the arrival of the Northwestern Express, Stage and Transportation Company. At one point, Evans' Sioux City and Black Hills Transportation Company employed almost 1,000 men, and operated 1,000 wagons using 2,000 oxen and 1,000 mules. For the movement of heavy machinery and other difficult cargo, the Fort Pierre trail offered the best alternative.

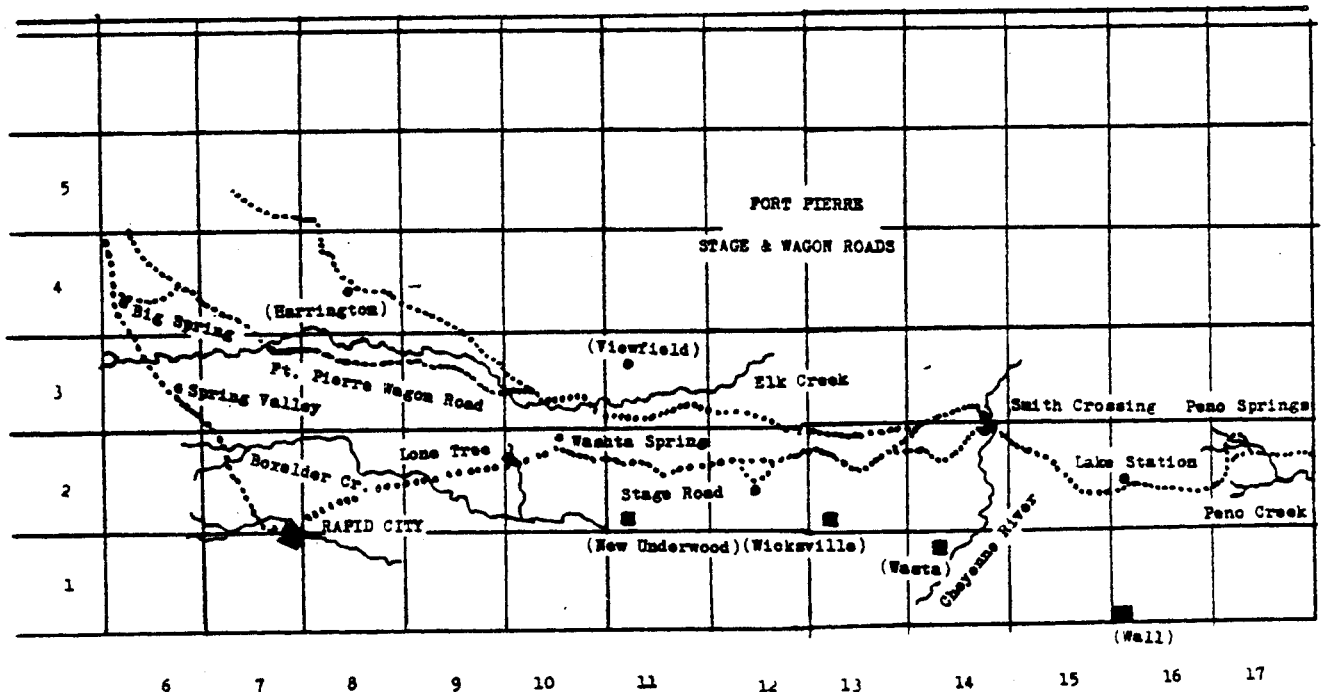
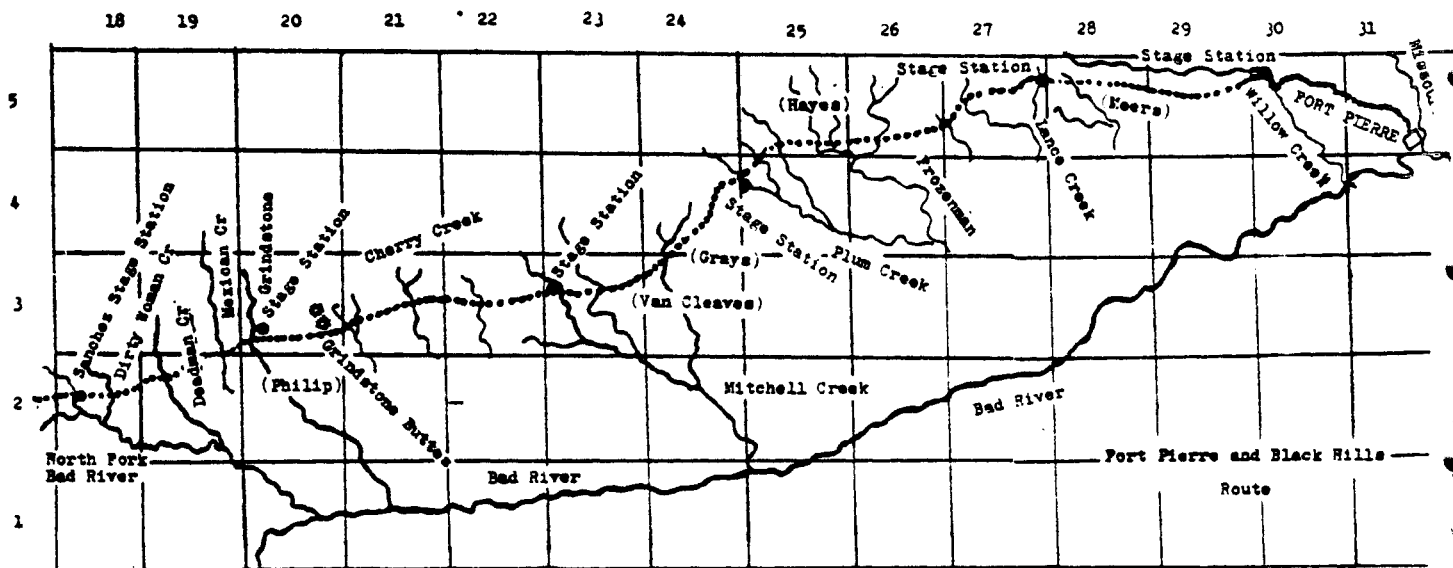


Fig. 9-58: The Fort Pierre-Deadwood trail. (top) east half; (bottom) west half (Klock 1979).

Bismarck to Deadwood

The Bismarck-Deadwood trail, first travelled by the Ben Ash party in December 1875, was longer than some of its competitors, but it offered several advantages. The Northern Pacific Railroad provided connections with the east. The Northwestern Express, Stage and Transportation Company was one of the best organized firms serving the Hills trade.

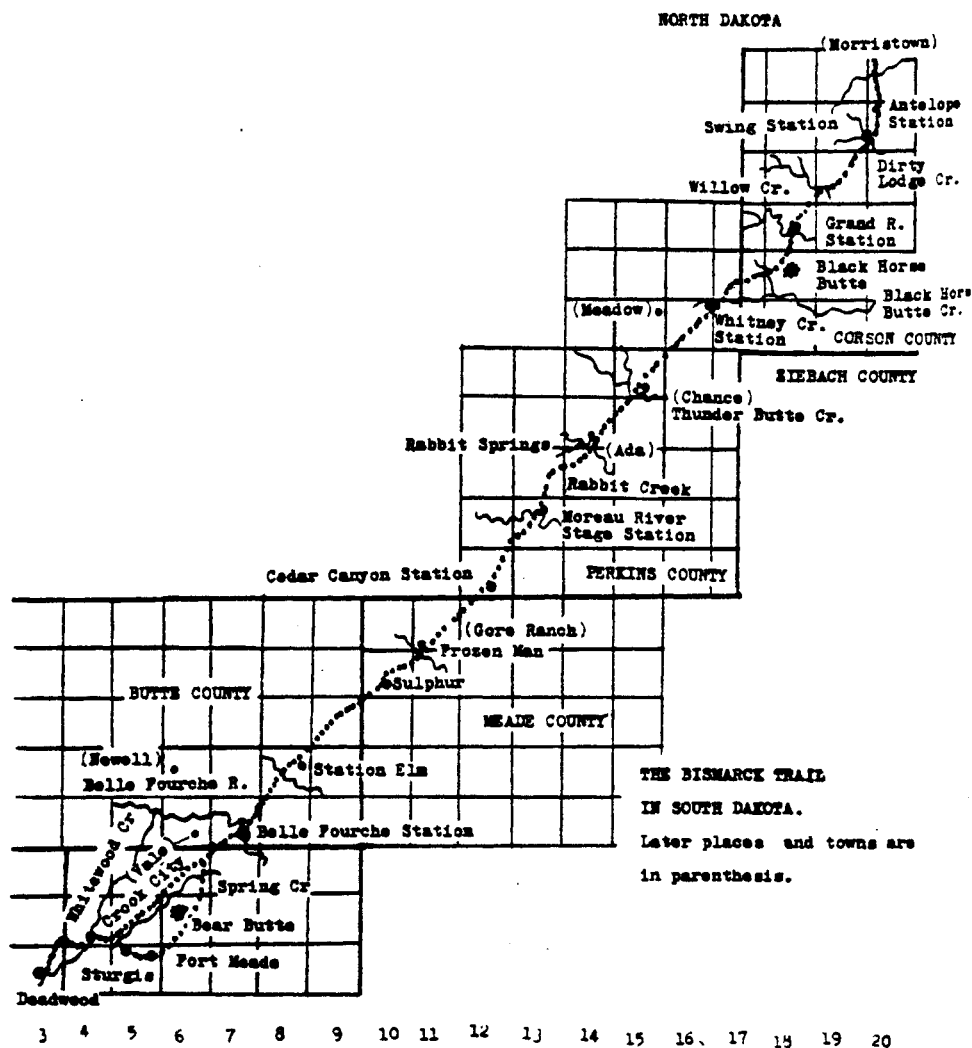


Fig. 9-59: The Bismarck trail in South Dakota (Klock 1979).

Established in the spring of 1877, the Northwestern operated twenty-eight passenger coaches, 175 horses, twenty-five drivers and eight messengers in its stage and express operations, and 250 teamsters, 600 horses and mules, and 348 oxen in the freight department. Stagecoach running time from Bismarck to Deadwood was forty-eight hours. At the peak of its operations, the Northwestern had a monthly payroll of

\$12,000. As noted above, the arrival of the railroad in Pierre made Fort Pierre the best connection to the Hills, and the Northwestern's shift to Fort Pierre in the winter of 1880-1881 ended most of the traffic along the Bismarck route (Klock 1979).

Lesser Routes

There were other freight and stage trails to the Black Hills, but none of them offered serious competition to the routes discussed above. A trail from Chamberlain to Rapid City, following essentially the same route that the Milwaukee Railroad would later use as far as the Cheyenne River, had the great disadvantage of crossing a section of the Great Sioux Reservation which the Brule hoped to keep free of traffic. Difficulties with this route kept it from being used very extensively. The Medora-Deadwood trail, connecting this settlement on the Little Missouri in North Dakota to the Black

Hills, enjoyed brief stage service promoted by the flamboyant Antoine de Vallambrosa, Marquis de Mores. This route crossed sections of gumbo prairie impossible to travel in wet weather, and by 1885, railroads were nearing the Black Hills. The Miles City, Montana-Black Hills trail saw some traffic early in the gold rush, but it did not connect with a source of manufactured goods from the states as did all of the routes discussed above. As Montana ranches continued to supply some horses (frequently stolen) and beef to the Black Hills, the Miles-City-trail continued to be used into the 1890's. Compared to other western mining frontiers, the Black

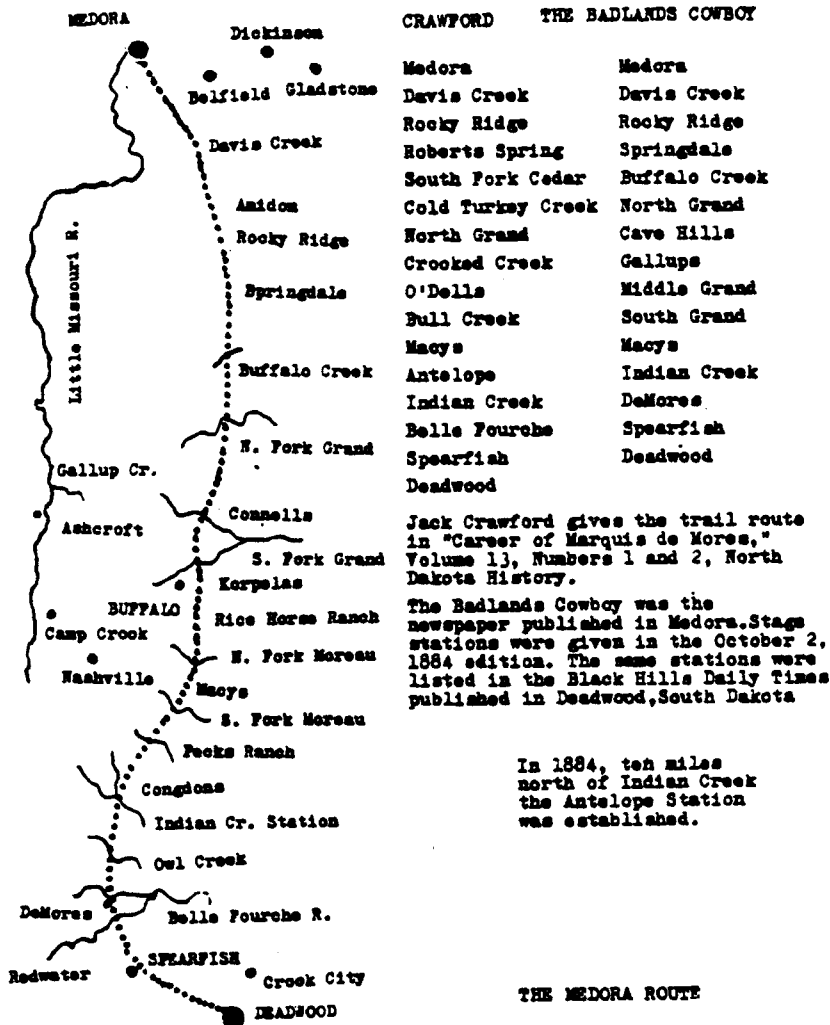


Fig. 9-60: The Medora route, south from North Dakota (Klock 1979).

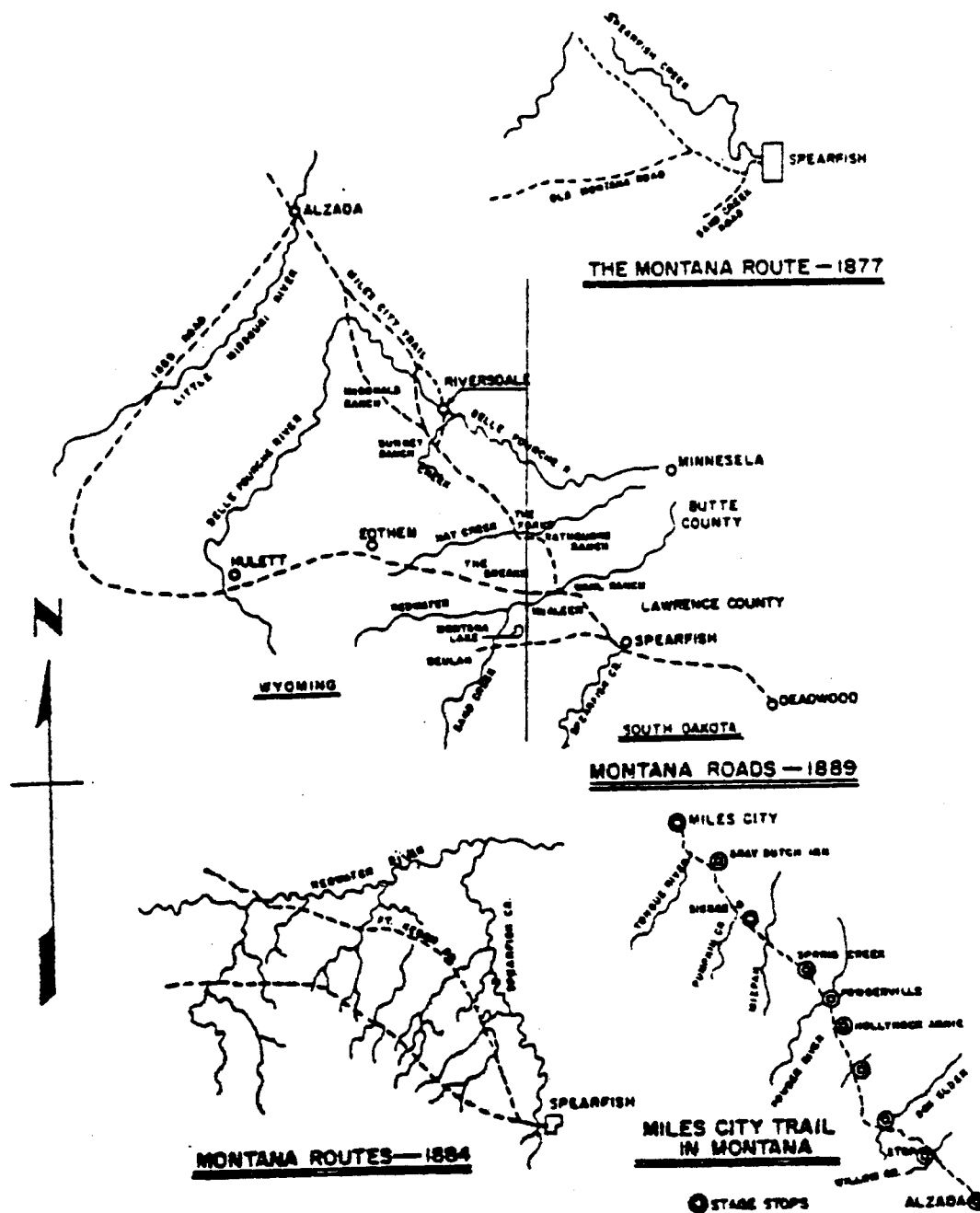


Fig. 9-61: Montana trails to the Black Hills (Klock 1979).

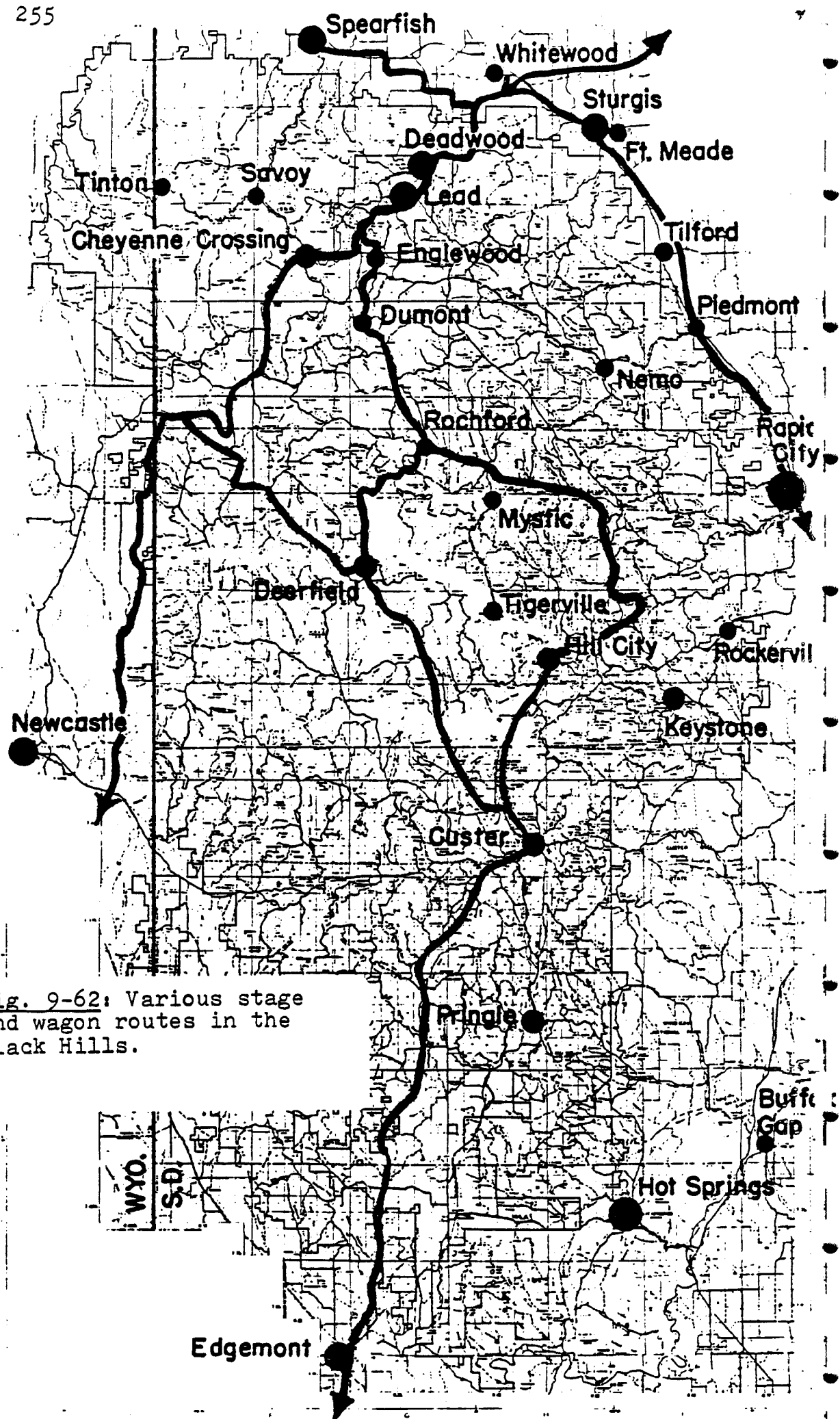


Fig. 9-62: Various stage and wagon routes in the Black Hills.

Hills did without railroads for a long time, but there was certainly no shortage of stagecoach and freight trails (Tallent 1899; Spring 1949; Willard and Brown 1924; McClintock 1939; Bennett 1928; Klock 1979).

Local Trails

The attention given to the long-haul stage and freight routes to the Black Hills has obscured the role of local stagecoach and freight trails in the Black Hills. Perhaps most typical of this element of Black Hills stagecoaching was the Deadwood-Spearfish stage line. While not as studied as the long-haul Cheyenne-Deadwood and Sidney-Deadwood stage routes, the more localized lines, such as Spearfish-Deadwood, lasted longer and were a significant, if not spectacular part of Black Hills transportation in the pre-automobile era.

The Spearfish-Deadwood line operated from 1877 to 1903 with stagecoaches. The line was established in 1877 by the Rogers and Spears partnership of Spearfish. In 1887 they sold it to John McClintock, the individual later to write the Black Hills classic dealing with the frontier era, Pioneer Days in the Black Hills, in 1939, when he was in his nineties. McClintock operated the line until 1912, when the horse-drawn coach era ended. The Spearfish stage was replaced by a Ford automobile that was operated by R.L. Todd of Spearfish. During the McClintock era, the stage carried passengers, mail, express and any freight that would fit on the coach. The peculiar nature of Spearfish's rail service undoubtedly contributed to the line's business. Train service from Deadwood to Spearfish required over three hours for a one-way trip and included a layover or change of train at Englewood. The Deadwood-Spearfish route provided faster and more direct service.

The stage route from Deadwood to Spearfish followed White-wood Creek to the edge of Centennial Prairie and section lines across the prairie into Spearfish. Since the stagecoach era covered the years from the gold rush to the beginning of the "good roads movement", virtually all of the stagecoach miles were driven over very poor thoroughfares. The stage roads had no gravel surfaces, and bridges or culverts were only replaced when totally destroyed by washouts. The road was sometimes so muddy that a trip across the prairie could only be completed by staying on the high ridges and cutting fences along the way. As was true of many Black Hills stage trails, there were actually a number of sets of ruts for some sections, and the "trail" was a series of parallel tracks a quarter of a mile or more wide. This characteristic of pre-automobile era roads and trails frequently frustrates contemporary students of Black Hills trails. In narrow canyon areas, trails tended to follow limited and more clearly defined routes. On the prairies, trails could cover wide areas.

Some statistics associated with the Spearfish-Deadwood line provide an indication of the importance of the local stage routes in the Black Hills. J.W. McClintock estimated that the line hauled over 10,000 passengers a total of several hundred thousand miles and carried express worth millions of dollars. Local stagecoach, freight and express service deserves more attention than historians of the Black Hills have given the topics (McClintock 1939; Lawrence County Historical Society 1981).

Toll Roads, Telegraph and Telephones

The same could be said of toll roads, telegraph and telephone service in the Black Hills. Toll roads were characteristic of earlier mining frontiers where dense populations of miners, steep terrain and limited access made such ventures potentially profitable. Deadwood, Centennial Prairie and Crook City were connected by a toll road at a cost of \$7,500. Another road followed Deadwood Creek from Deadwood to Gayville. The longest Black Hills toll road was a 12.5 mile road from Gayville to Spearfish. Names remaining on the landscape, such as Tollgate Flats in the Hills above Spearfish, hint of the early importance of toll roads.

Telegraph communication was also important in the Black Hills, especially in the years before railroads arrived. By the early 1880's, there were lines connecting the Hills with Cheyenne, Miles City and Sidney. Of these, the Cheyenne line was the first, placed in service on 1 December 1876. Telegraph lines often followed stage routes, but this was not always the case. This is another topic needing further study. Telegraph Gulch, west of Rochford, provides an example of lingering reference to the telegraph era.

Because of the wealth and engineering skills concentrated in the Hills, telephones were soon a feature of life in Deadwood and surrounding communities. Deadwood's first telephones were installed in 1879, and lines soon linked Deadwood with Lead, Spearfish and surrounding towns. Rapid City also developed a local system in the 1880's. Early telephone lines have also received only limited attention from historians of the Black Hills (Parker 1981; Lawrence County Historical Society 1981; Miller 1984).

Railroads

Wagon roads were never viewed as a permanent solution to transportation problems of Nineteenth Century frontier communities. Railroads were one answer. Unlike many areas in eastern Dakota, the Black Hills developed before the arrival of railroads. Location, town design, economic institutions and politics in the east could often be interpreted largely in the context of railroads and their policies in the late 19th and early 20th Centuries. This would not be true in the Black Hills, although railroads were an important economic and social force in the Black Hills for a half century.

The first Black Hills railroads grew up in isolation from the developing American railroad network. Speculation on railroad development in the Hills was as old as the Black Hills gold rush. A major problem facing would-be Black Hills railroad developers was that the Black Hills were isolated by hundreds of miles from the two transcontinental railroads in the region, the Union Pacific to the south, and the Northern Pacific to the north. The Great Sioux Reservation to the east acted as another barrier to western railroad expansion. The tribes' bad experience with railroads made them totally opposed to railroads across the reservation. The 1876 Agreement had mentioned wagon roads, but contained no provisions for railroads. When the rails reached the eastern edge of the reservation at the Missouri River in 1880 (at Chamberlain and Pierre), they struck a solid barrier to westward expansion (Schell 1972; Miller 1984).

This left the Black Hills to develop its own rail system internally. Homestake Mining Company took the first steps toward this when it brought rails, hardware for wooden car construction and a locomotive, the J.B. Haggin, by bull train from Fort Pierre in 1879 (Fig. 9-40). This first railroad was twenty-two inch gauge and moved ore from various shafts and mine pits to the Homestake mill. The J.B. Haggin, named for one of the original Homestake investors, has survived and is on display in the W.E. Adams Museum in Deadwood.

Homestake's original railroad venture was followed by a more ambitious project in 1881. Construction began on the Black Hills and Fort Pierre Railroad, a three-foot gauge (or "narrow gauge") railroad to connect the mills at Lead City with timber supplies and outlying ore bodies in the surrounding area. Eventually the Black Hills and Fort Pierre would extend through the Hills all the way from Lead to Piedmont, but that was as close as it would get to Fort Pierre.

In 1902, the Black Hills and Fort Pierre was sold by Homestake to the Chicago, Burlington and Quincy Railroad for \$1,091,037.40. Following a series of washouts in 1907, the line was rerouted to serve logging areas around Nemo and Este. The narrow gauge continued to operate into the 1920's as part of the CB&Q system, and was finally abandoned as mining activity in outlying areas ended and loggers began the conversion to trucks in the early 1920's. Some Black Hills narrow gauge equipment was sent to the CB&Q's subsidiary Colorado and Southern, and it continued to be used there until the C&S ended its narrow gauge operations in the Colorado Rockies during World War II (Fielder 1964, 1970; Cash 1973).

One other Black Hills narrow guage line pre-dated the arrival of standard guage connections with the outside world. The Deadwood Central was built in 1888 to connect Deadwood and Lead via Gold Run Gulch. Eventually the Deadwood Central was extended to serve gold camps around Trojan and Terry. The section between Lead and Deadwood was electrified, and street-car service was provided between Lead and Deadwood during the years from the turn of the Century to the Depression (Fielder 1964).

The first standard gauge rail connections between the Black Hills and the nation's rail systems was the Fremont, Elkhorn and Missouri Valley Railroad. The FE&MV built west across Nebraska from Fremont during the 1880's. By 1884 the railroad had reached the new town of Chadron in western Nebraska. The "Elkhorn", as the FE&MV was called, was leased by the Chicago and Northwestern and connected western Nebraska with points east as far as Chicago. When the Elkhorn reached Chadron, it was able to build north toward the Black Hills without crossing the Great Sioux Reservation. In 1885, an extension to the Hills was begun, and by 6 July 1886, it was completed to Rapid City. The first standard gauge rail line to the Hills avoided the difficult geography of the area by crossing the country lying east of the Black Hills. It passed through what would become the towns of Oelrichs, Smithwick, Buffalo Gap, Fairburn and Hermosa. The Elkhorn's arrival in Rapid City ended the long bull train freighting to the Black Hills from Missouri River and Union Pacific towns. Rapid City experienced a brief boom as the terminus of railroad transportation in the Black Hills.

Rapid City promoters would have to wait for the city's golden age as a major center in the Hills. As commercial and financial hub of the Black Hills, Deadwood was the target of railroad building schemes in the 1880's. From Rapid City, the Elkhorn edged north toward Sturgis and Whitewood in 1887. By 1890, the Elkhorn had bypassed the county seat of Butte County, Minnelusa, and built into the fledgling community of Belle Fourche on the Belle Fourche River. In a saga repeated dozens of times in South Dakota east of the Missouri River, the promoters of Belle Fourche had managed to outmaneuver the Minnelusa interests. Deadwood businessmen Sol Star and Seth Bullock owned part of the Belle Fourche townsite. In exchange for aid in securing right-of-way into already developed Deadwood, the Elkhorn favored Belle Fourche over Minnelusa. Building up Whitewood Canyon along a difficult route which included a 1,200 foot tunnel, the Elkhorn reached Deadwood on 29 December 1890. Ironically, rails arrived in Deadwood on the same day as the Wounded Knee tragedy on the Pine Ridge Reservation, creating an eerie blend of the end of one era and the beginning of another (Fielder 1964; Miller 1984; Koller 1949; Kellar 1972).

Table 9-1

Black Hills Railroad Names
And Former Routes

B&M - Burlington and Missouri R.R.
 B&MR- Burlington and Missouri River R.R.
 CB&Q- Chicago, Burlington and Quincy R.R.
 BN- Burlington Northern R.R.
 GI&WC- Grand Island and Wyoming Central R.R.
 FE&MV- Fremont, Elkhorn and Missouri Valley R.R.
 CNW- Chicago and Northwestern R.R.
 RCBH&W- Rapid City, Black Hills and Western R.R.
 MR&NW- Missouri River and Northwestern R.R.
 DC- Deadwood Central R.R.
 BH&FtP- Black Hills and Fort Pierre R.R.
 W&MR- Wyoming and Missouri River R.R.
 WL- Warren Lamb Lumber Co. R.R.
 MT&T- McLaughlin Tie and Timber R.R.

Existing railroads on the map:

Edgemont to Deadwood - Burlington Northern (former CB&Q,
B&M, B&MR, GI&WC)
 Hill City to Keystone- Burlington Northern (former CB&Q,
B&MR)
 Buffalo Gap to Rapid City to Belle Fourche to Colony, WY -
CNW (former FE&MV from Buffalo Gap
to Belle Fourche)
 Edgemont to Newcastle, WY to Moorcroft, WY -
Burlington Northern (former CB&Q,
B&M, B&MR, GI&WC)

Non-existing railroads on the map:

Hot Springs west to Minnekahta - Burlington Northern (former
CB&Q, B&M, B&MR, GI&WC)
 Deadwood to Whitewood - Chicago and Northwestern (former
FE&MV)
 Rapid City to Mystic - Rapid City, Black Hills and Western
(former MR&NW)
 Englewood to Spearfish - Chicago, Burlington and Quincy (former
B&M, B&MR, GI&WC)
 Buffalo Gap to Hot Springs - Chicago and Northwestern (former
FE&MV)

Table 9-1 (cont.)Black Hills Railroad Names
And Former RoutesNon-existing routes on the map (cont.):

Newcastle to Cambria - Chicago, Burlington and Quincy
(former B&M, B&MR, GI&WC)

Deadwood to Lead (via Central City) to Terry and Trojan -
Chicago Northwestern (former FE&MV)

Deadwood to Lead (via Pluma) - Chicago, Burlington and
Quincy (former B&M, B&MR, GI&WC, DC)

Lead to Englewood to Peidmont - Chicago, Burlington and
Quincy (former BH&FtP)

Belle Fourche to Alladdin - Wyoming and Missouri River

Fairburn to Hills, Buffalo Gap to Hills, Johnson Siding
to Hills, Victoria Creek to Sheridan Lake -
Warren Lamb Lumber Co. R.R.

Nahant to Moskee - McLaughlin Tie and Timber Co. R.R.

NOTE: The Milwaukee Road right-of-way and rails are still in
place running east from Rapid City, and they belong to the
State of South Dakota.

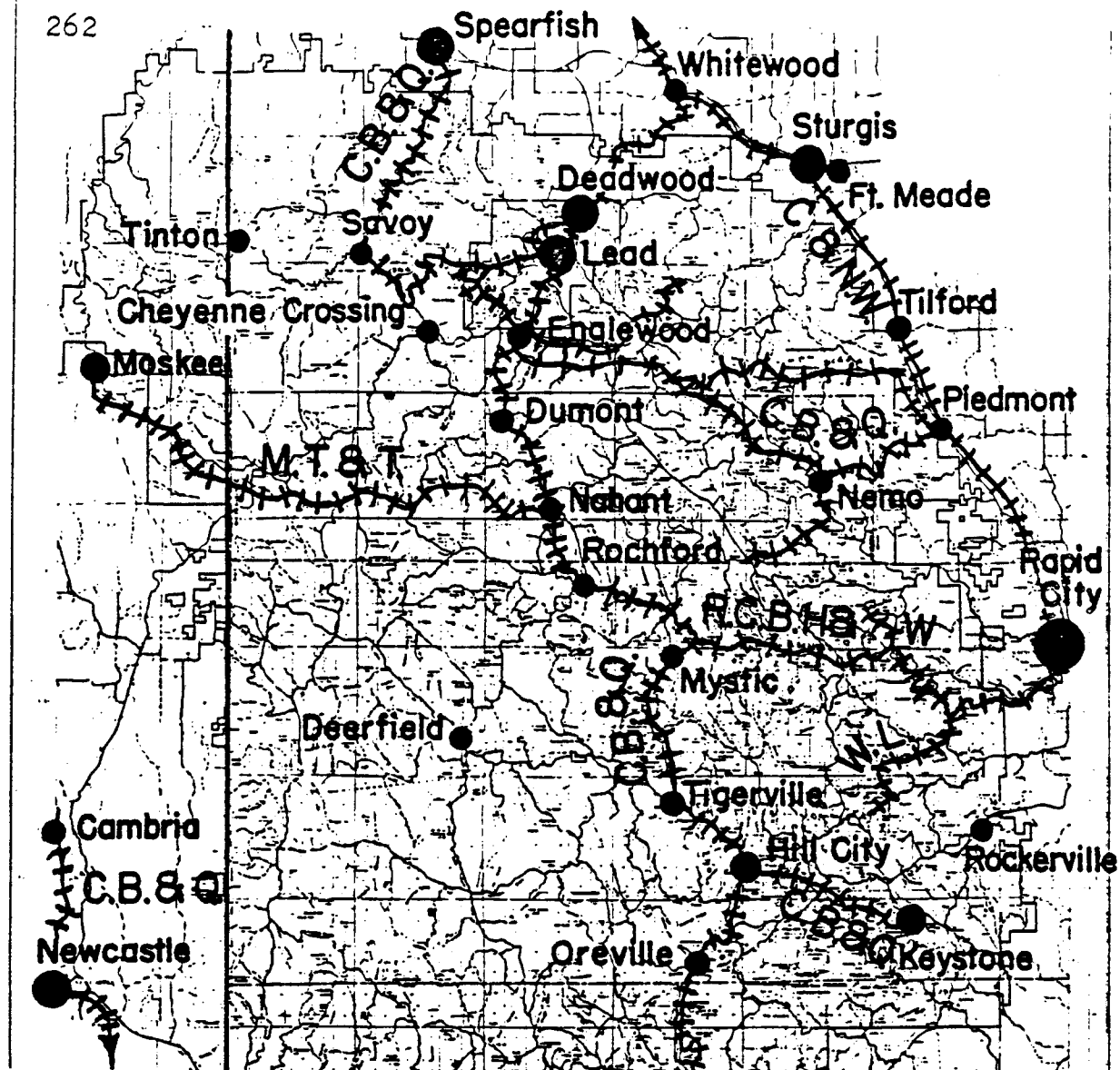
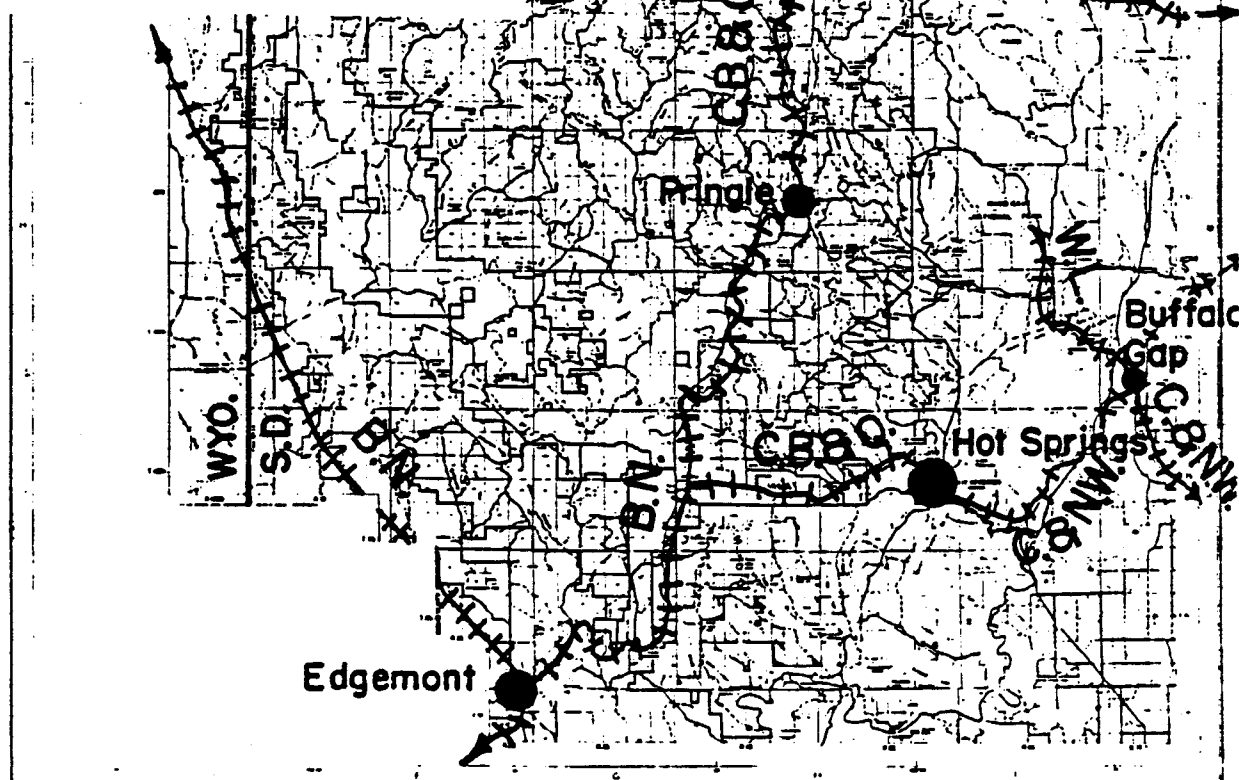


Fig. 9-63: Various rail lines in the Black Hills.



The Elkhorn reached Deadwood just ahead of a rival line, the Grand Island and Wyoming Central. Like the Elkhorn, the GI&WC was a satellite of a major railroad, this one the Chicago, Burlington and Quincy. The GI&WC had followed a path parallel to the Elkhorn, building west across Nebraska in the 1880's. By 1889, the GI&WC reached the South Fork of the Cheyenne at Dudley, directly across the river from where Edgemont would shortly be established. From this point, the GI&WC built north through the Black Hills toward Deadwood.

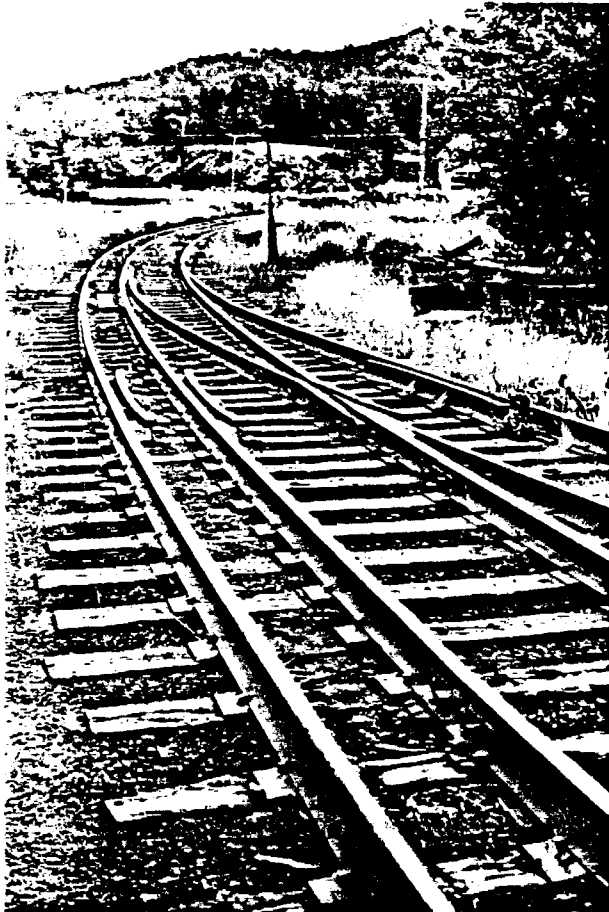
Of the two lines into Deadwood, the GI&WC was clearly the one following the most difficult route. The engineering problems of the Elkhorn's Whitewood Canyon track laying were small compared to those of the line from Edgemont to Deadwood. The 106.36 miles of the railroad track included some three percent grades and twelve degree curves. The railroad followed Spring Creek, Rapid Creek, North Rapid Creek, Castle Creek, Kirk Creek and several others. There were a number of tunnels and dozens of trestles, including one of monumental proportions across Sheep Canyon in the southern Hills. This trestle was later replaced by a fill. Railroaders unfamiliar with Black Hills history sometimes speculated that the line from Edgemont to Deadwood was built to insure Deadwood the least convenient connections with the outside world.

Viewed from the perspective of Black Hills development in the 1880's and early 1890's, the Edgemont to Deadwood line made a good deal of sense. Winding past Custer, Hill City and Rochford, the line gave the GI&WC access to a number of the best known mining districts of the Black Hills. In 1892, a branch line of thirty-two miles was built from Englewood to Spearfish over a steep grade past Trojan and down Annie and Spearfish Creek Canyons to Spearfish. A branch from Hill City to Keystone built in 1900 provided access to the mines of that area. Another branch from Minnekahta to Hot Springs allowed for the growing traffic of health spa and tourist trade. The purchases of the Black Hills and Fort Pierre, and the Deadwood Central opened other mining areas to connections with the GI&WC. These rail lines could also claim the title for most frequent name changes in Black Hills railroading. The GI&WC became the Burlington and Missouri River, then the Burlington and Missouri, then took the name of the parent company, Chicago, Burlington and Quincy. The final name change came in 1970 when the CB&Q became part of the Burlington Northern system (Overton 1965; Fielder 1964; Miller 1982).

The Elkhorn experienced its own reorganizations and name changes. Around 1900, the Elkhorn was absorbed into the parent Chicago and Northwestern. The CNW furnished connections for a shortline moving coal from the mines at Aladdin, Wyoming to the smelters of Deadwood. Constructed in 1899, the Wyoming and Missouri River hauled coal from Aladdin to Belle Fourche,

where the CNW moved it on to Deadwood via Whitewood. During the construction of the Belle Fourche Irrigation District in 1910, a branchline was built from Belle Fourche to Newell. A branch from Buffalo Gap to Hot Springs, built in 1890, gave the Elkhorn a share of the Hot Springs trade (Fielder 1964; Miller 1982; South Dakota Department of Transportation 1978).

During the years from 1890 to 1905, Deadwood served as the center of the Black Hills rail network. Narrow and standard gauge rails converged on Deadwood. Trackage was



three-rail, allowing the operation of standard and narrow gauge equipment in the same trains. Wholesale houses in Deadwood supplied the entire Black Hills trade area. Smelters such as the Deadwood and Delaware, and the Golden Reward processed the ore from their own and other mines. Deadwood's Franklin Hotel was the finest facility of its kind for travellers from Denver to the Twin Cities when it opened in 1903. All of the traffic and trade for these facilities arrived by rail. As Deadwood's demise as a trade center progressed the utility of a rail system focused on a cramped mountain community made less and less sense. At the turn of the century, however, a Black Hills rail system oriented toward Deadwood was logical and useful (Parker 1981).

Fig. 9-64: Much of the trackage in the Lead-Deadwood mining district was three-rail, allowing the interchange of narrow (3') and standard (4'8½") gauged locomotives and cars (Dave Miller photo).

Part of Deadwood's decline was due to a fundamental change in the Black Hills railroad situation. Rapid City's location on the eastern edge of the Hills had long made it a logical gateway to the Hills. This natural advantage was greatly

enhanced by changes in the Black Hills railroad picture shortly after 1900. In 1905 the CNW and the Milwaukee Road made long anticipated decisions to build from the Missouri River to the Black Hills through the corridor across the reservation opened

by the 1889 Agreement. Building west from the Milwaukee Road's railhead at Chamberlain and the CNW railhead at Pierre, both roads reached Rapid City in 1907. In the process of building through the corridor, both roads opened millions of acres of new land to adequate transportation and helped to trigger the West River land boom that brought thousands of settlers to the region from 1905 to the First World War.

During the same period, Rapid City also received a rail connection through the Hills to the CB&Q at Mystic. The Missouri River and Northwestern Railroad wound up Rapid Creek past Pactola and Silver City to its junction with the Burlington. Along with the Burlington's branch to Spearfish which ran down Spearfish Canyon, this line won the reputation as one of the most scenic railroads in the West. In thirty-four miles, the line crossed Rapid Creek 105 times and contained enough curves to complete twelve full circles. Reorganized in 1907 as the Rapid City, Black Hills and Western, the railroad was popularly known as the Rapid Canyon Line. Shortly after the track was laid, it went into receivership, was reorganized by C.D. Crouch, and thus was also known as the "Crouch Line".

The Crouch Line enjoyed a scenic, varied, but not very profitable career until its abandonment in 1948. Hopes of lucrative mining traffic never materialized. Freight traffic consisted of logs hauled from the forest to the Warren Lamb Lumber Company and several small sawmills. There was always some "bridge" traffic, such as Wyoming coal transferred from the Burlington at Mystic, destined for the Rapid City market. Aviation fuel from Wyoming refineries to the Rapid City Army Air Base was a major source of World War II traffic. Passenger use was mostly limited to local residents and tourists viewing scenic Rapid Canyon. Fisherman could stop the train or board it at almost any point (which was also true of the Burlington's train service through Spearfish Canyon). All in all, the Crouch Line represented a pretty leisurely approach to train service. Increasing competition from automobiles and busses, and a declining freight business made the line unprofitable after the end of World War II, leading to its abandonment in 1948.

Most other Black Hills railroad lines have shared the fate of the Crouch Line. As noted above, the narrow guage operations had ended by the beginning of the Great Depression. A serious flood in Spearfish Canyon destroyed most of the Spearfish Branch below Elmore in 1933. Traffic did not justify rebuilding the line and it was abandoned below the Annie Creek mining complex in 1934. Completion of a highway through Spearfish Canyon in 1930 had provided alternative transportation for the Latchstring Inn at Savoy and other resorts and summer homes in the Canyon. During World War II, the remainder of the Spearfish Branch to Englewood was taken up. Once a bustling



Fig. 9-65: Early motorcar transportation on the Rapid City, Black Hills and Western, the "Crouch Line". Photo taken ca. 1910 (Courtesy South Dakota School of Mines and Technology - Devereaux Library).

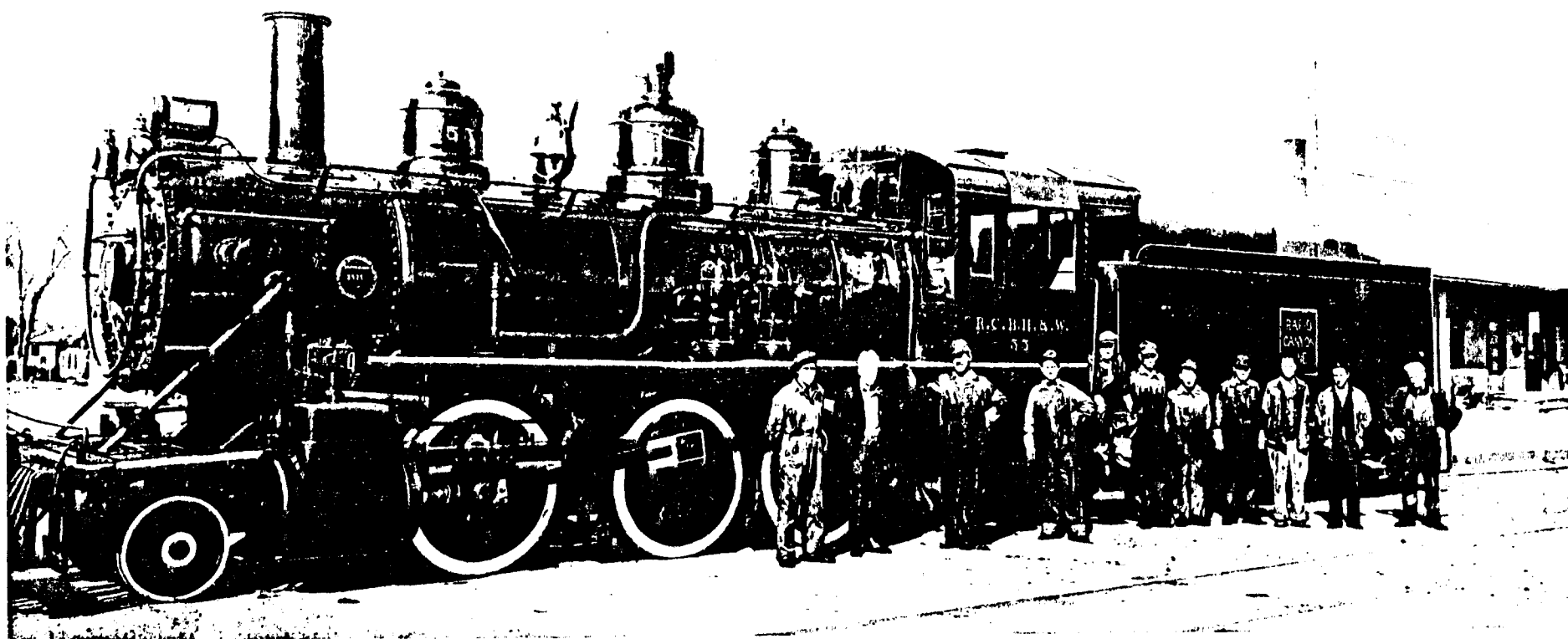


Fig. 9-66: Locomotive number 55, a Baldwin 2-6-0 used in the 1930's and 1940's on the Rapid City, Black Hills and Western (Crouch Line) along the Rapid Canyon route (Courtesy South Dakota School of Mines and Technology - Devereaux Library).

town with roundhouse, yards and its own businesses, Englewood died quickly after it ceased to be a center for narrow and standard guage rails. When coal mines ended operation at Aladdin, the Wyoming and Missouri River suffered a similar fate. It was abandoned in the early 1930's. Also a victim of a major flood, the CNW's Buffalo Gap-Hot Springs line was closed in the late 1930's.

The pattern of railroad abandonment continued during the post-World War II era. Improvements in the regional highway system and the inherent nature of Black Hills railroad lines made it almost inevitable that railroads would eventually lose most of their freight and passenger traffic. Built to serve the transportation needs of an earlier era, most Black Hills railroads could not operate efficiently on lines with sharp curves, steep grades and light rail. Some lines, such as the Burlington's Edgemont to Deadwood route, were located along routes unsuited to serve transportation needs of the Twentieth Century Black Hills economy. By the late 1950's, the Deadwood line's chief reason for existence was to haul coal from Black Hills Power and Light's Wyodak Mine near Gillette to the power-plant near Kirk. Coal was hauled several hundred miles across a line designed to serve Nineteenth Century mining communities. It would have been different to intentionally design a more round-about route. By the early 1960's, railroads serving the Black Hills depended almost entirely on wood products, bentonite, grain, cement and other incidental traffic for revenue. The cancellation of the CNW's "Black Hills 400" in 1960, left the region with only the Burlington's trains 42 and 43 through Edgemont and Newcastle for passenger service. These trains were cancelled in 1971.

Freight traffic in the 1960's was not sufficient to support much of the Black Hills rail system. The closing of Utah-Idaho Sugar Company's Belle Fourche beet processing plant ended service on the Newell-Belle Fourche line in the late 1950's. The CNW's Deadwood-Whitewood line was abandoned in 1970. Integration of the Burlington lines into the merged Burlington Northern system in 1970 made little difference to the health of Black Hills railroading. In the mid-1970's, the Hot Springs-Minnekahta branch was abandoned. Following the bankruptcy of the Milwaukee Road in 1977, the Milwaukee's line into Rapid City from the east was abandoned on 1 March 1980. The State of South Dakota acquired this line in 1981 as part of a statewide purchase of Milwaukee Road property, but no trains have operated yet on the line. Increased coal traffic on the Newcastle-Edgemont main line has resulted in a major upgrading of this route by the Burlington Northern. The location of this trackage, however, causes it to have a minimal impact on the Black Hills transportation picture. In the fall of 1983, the Burlington Northern abandoned its line from Custer to Deadwood. At the same time, the CNW attempted to close its Pierre-Rapid City line. Shipper opposition at

Interstate Commerce Commission hearings in Pierre and Philip resulted in denial of the request, and the CNW has since reassessed its position. Present indications are that the rail service available to the Black Hills region will at best be minimal during the years to come.

The Black Hills Central Railroad provides the only exception to the picture of declining railroad service in

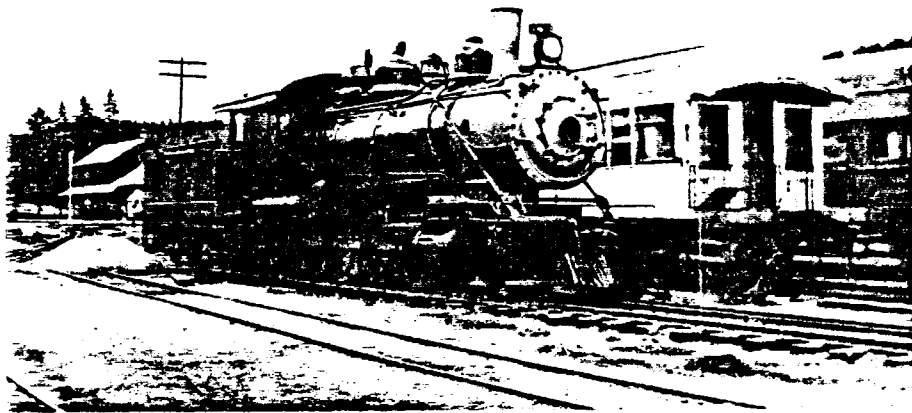


Fig. 9-67: Old time steam railroading remains alive in the Black Hills as the Black Hills Central. This Baldwin 2-8-0 once pushed log and iron ore cars on the Duluth and Northeastern, and now operates on a tourist run between Hill City and Keystone (Dave Miller photo).

the Black Hills, as outlined above. Established in the mid-1950's on the Burlington's Hill City-Keystone branch, the Black Hills Central is a tourist line using vintage steam locomotives and passenger equipment. Original operations were with three-foot narrow gauge equipment from the Colorado Rockies and Yukon. Recently standard gauge equipment has been used. The 1972 flood took out track on the Keystone run, forcing the Black Hills Central to temporarily reroute to Custer. Service has now been returned to Hill City-Keystone. Presently the Black Hills Central offers the only rail passenger service in South Dakota (Fielder 1964; Miller 1984; South Dakota Division of Railroads 1978).

Highways

As previously noted, the original Black Hills road system was a combination of trails, stagecoach/freighting roads and toll roads. Major routes were examined in the section of this

report discussing stagecoach and wagon freight transportation. Toll roads were unpopular and did not survive the organization of county and local government in the late 1870's. Improvements to the system were minimal and, if anything, the roads were allowed to deteriorate in the 1890's after railroads became available to most Black Hills towns. This condition changed only after the coming of motor transportation in the early 1900's. The rugged terrain of the Black Hills and the sorry state of roads there created widespread dissatisfaction with the area's road system.

This situation resulted in the rise of the "good roads" movement in South Dakota in the years following 1910. Business leaders such as George Ayres of Deadwood, and politicians like future Governor and U.S. Senator Peter Norbeck of Redfield, provided leadership for a statewide movement to get South Dakota out of the mud. Part of the effort was devoted to publicizing the need for better highways and part to changing existing road laws to allow a broader financial base for highway improvement. Provision was made for reorganization of township and other local road districts into county units with greater resources. Legislation for state support for highway construction and for federal highway aid had changed the highway picture considerably by 1916. Lawrence and Pennington Counties in the Black Hills had reorganized their road districts and embarked on serious good roads projects. Gravel all weather roads to connect communities were under construction and concrete and steel bridges began to replace the wooden bridges on main roads. Wyoming's good roads movement also gathered strength in the years preceeding World War I. By 1917, Wyoming also had begun to provide state aid for highways, although the good roads movement did not achieve the immediate results in the Wyoming Black Hills counties as did South Dakota (Schell 1972; Larson 1978; Miller 1984; Lawrence County Historical Society 1981).

By 1917, the first steps were also being taken toward a regional highway system to serve the Black Hills and Northern Plains area. The highways which would later become U.S. 14 and 16 in the Black Hills were first named rather than numbered. The Black and Yellow Trail was established from Minneapolis to the Black Hills and on to Yellowstone Park. This route entered the Hills at Rapid City and continued to Hill City, Custer and Newcastle. A spur from Buffalo, Wyoming to Billings and Glacier Park, called the Custer Battlefield Highway, captured some eastbound trade for the Black Hills. Yellowstone Park was opened to automobiles, and by the end of World War I, Black Hills promoters were beginning to seriously consider the economic possibilities offered by developing automobile touring in the Hills, drawing visitors from cities hundreds of miles away (Miller 1984).

At the same time, the Black Hills also began to experience the construction of some scenic highways. The Needles Highway and the Iron Mountain Highway are two examples. Although Spearfish Canyon was served by rail transportation, Lawrence County began a highway up the canyon in the early 1920's. The chief motive was to provide access to the scenic beauty of the

area. The Spearfish Canyon highway was opened in 1930.

However, away from the main transportation routes and those opened for sightseeing purposes, the roads were worse than they had been during the late Nineteenth Century, especially where mining and lumbering activity had ended. Creation of a forest road system capable of providing reliable transportation would come as a result of Civilian Conservation Corps projects and changes in the logging industry during the 1930's. Routes of major state and U.S. highways in the Black Hills were essentially established by this time, and later changes would consist largely of renumbering and relocation to improve grades and curves. The construction of Interstate 90 in the 1960's and early 1970's brought the superhighway era to the Hills. Since I-90 paralleled the U.S. 14 route from Wall on the east, past the Hills as far as Sundance, even the Interstate system has not changed the basic location of the Hills transportation corridors.

FARMING AND RANCHING

Agriculture in the Black Hills and surrounding region grew along several separate paths. As the gold rush progressed some Black Hills agriculture was intended to provide meat, vegetables, dairy products and fodder for the people and animals who worked in the mines and commercial and transportation aspects of the Hills economy. A separate agricultural economy grew around the range cattle (and later, sheep) industries, which developed on the prairies around the Hills, and in the foothills. In the years following the 1890's, this agricultural pattern became more complex. Foothills range cattle operations began to pasture livestock in the summer on grazing allotments in the high pastures of the Hills. The creation of large-scale irrigation in the Belle Fourche project created an intensive sugar beet economy that produced a crop processed locally and shipped out in finished form. Unlike some areas of South Dakota and Wyoming, agriculture has never been the most important economic activity in the Black Hills, but it has always been significant.

Early agriculture grew largely as a means of supporting mining and other communities in the Black Hills. Small farms and ranches along Rapid, Spearfish and other Black Hills creeks, provided grain, hay, vegetables, milk, butter and poultry to mining camps. Centennial Valley, Seventy Six and Boulder Parks were important pasturing areas for livestock used in freighting and the mining industry. Danes and French-Canadians in the St. Onge area developed a very specialized dairy trade. Surviving stone barns on the Henry Frawley ranch were specially constructed over springs to cool cream until it was ready for market. Small irrigation diversions and ditch systems were built off of Spearfish and Rapid Creeks in the northern and eastern Hills, and on Cascade Creek in

the southern Hills, were used in the 1880's. During this time, apple orchards were planted in some of the same areas. Existing as an island far-removed from competition of other produce regions, the Black Hills developed its own agricultural base to supply as many of its needs as possible in the 1870's and 1880's (Parker 1981; Sundstrom 1977; Lawrence County Historical Society 1981; Miller 1982, 1984).

Horse breeding was also an important economic activity in the Black Hills by the 1880's. Aside from the general need for horses in pre-automobile American society, there was a large demand for horses, mules and oxen in logging and mining. The creation of Fort Meade as a cavalry post initiated a market for cavalry mounts, and some farms and ranches in the Tilford, Sturgis and Piedmont areas specialized in raising horses suitable for this purpose. As late as the early World War I era, horse buyers representing foreign governments bought Black Hills horses for military purposes. The famous Fleur de Lis Ranch, established by the French nobleman Baron E. de Mandat-Grancey in 1886 near Buffalo Gap, was a specialized horse ranch which sold to the markets cited above (Tallent 1899; Cash 1973; Sundstrom 1977; Miller 1982; Cochran and Strain 1981).

As the development of the range cattle industry followed the confinement of plains Indians and destruction of the buffalo herds north on the High Plains, the prairies around the Black Hills became headquarters for large range cattle operations. Among early cattle outfits in the Hills area were William and Valentine Dickey (TL brand) on the headwaters of the Little Missouri north of the Hills; Maurice Kellcher (Fox and Ox Bow brands) in Spring Creek Valley near Rapid City; John Hart on Spring Creek at the site of the contemporary Hart Ranch tourist development; Peter Duhamel on Battle Creek near Hermosa; Frank Burton (TOT brand) on the Cheyenne River near Edgemont (Burton's and several other large southern Hills cattle ranches were purchased by the Anglo-American Cattle Company as part of the operation instrumental in the creation of the town of Oelrichs, previously discussed); and the VVV Ranch and others west of the Black Hills, founded by Texans who followed the range cattle frontier north (Williams and Lee 1964).

These cattle operations and a number of others had concentrated 100,000 head of cattle or more in the region around the Black Hills by the early 1880's. These were classic open range operations on unfenced prairies, using spring and fall roundups to brand and sort cattle belonging to the various outfits for identification, tally and sale. The one unusual feature of the range cattle industry around the Hills is that it did not, until the years after 1890, ship large numbers of cattle by rail to eastern packing houses. Black Hills rail connections were poor or nonexistent, and Hills communities and Indian agencies furnished markets for beef on the hoof.

Headquarters for many of these operations were in protected creek bottoms on the edge of the Black Hills. Ranch owners frequently lived outside the Hills, or in Hills towns such as Rapid City, Custer, Deadwood or Spearfish. A number of early ranching entrepreneurs were diversified mining and mercantile investors, such as Harris Franklin and Seth Bullock of Deadwood, or Tom Sweeney of Rapid City (Williams and Lee 1964; Miller 1984; Parker 1981).

The terrible winter of 1886-87, remembered as a major cause of the death of the old open range cattle frontier, had only a limited impact on the operations around the Black Hills. The Hills and foothills provided shelter and the drought conditions preceeding that winter were not as pronounced in the Black Hills. Markets for livestock in the Hills and on reservations were more dependable than those in the East. Railroads and the homesteader's frontier did not come to most of the prairie regions around the Hills until after 1900. All these factors and large grazing leases to big range cattle operations on Indian reservations east of the Black Hills combined to keep the range cattle industry alive in the region into the early 1900's. During the era before the arrival of West River homesteaders, perhaps the biggest change was the introduction of sheep on some parts of the range (Williams and Lee 1964).

Land hunger among would-be homesteaders all over the nation, the opening of Indian reservation land and the coming of railroads to West River prairies were all part of land rush in western South Dakota from the turn of the century to World War I. Railroads and land hunger were significant aspects of a similar process which took place west of the Black Hills in Wyoming. A good deal has been written about the prairie homesteaders of western South Dakota and northeastern Wyoming. Not much attention has been paid, however, to a similar homesteader's frontier within the Black Hills (Schell 1972; Larson 1977).

As supplies of land for homesteading elsewhere were exhausted, a number of would-be homesteaders tried their luck in higher valleys and draws within the Black Hills. This was especially true in the Limestone Plateau region of the central and northern Black Hills during the period 1895-1915. The usual pattern was to claim a homestead along a stream bottom and choose the 160-acre tract in such a fashion that it formed a strip along the stream. This process scattered parcels of private land across the area that became the Black Hills National Forest, and a majority of these homesteads were probably taken after the Forest was created. A survey of the Limestone Plateau region of western Pennington County has indicated a density of approximately one homestead per square mile in areas where water and terrain conditions exist as described above. (Miller 1982).

Agricultural activities were varied on these homesteads. Standard dwelling and outbuilding construction was of logs. A variety of log building techniques were used, perhaps indicating a homesteader population drawn from a number of regions. Some sawed lumber and machine produced wood shingles were also used. In some instances, meadows were cleared of rocks and small grains were cultivated. Hay was gathered from natural grasses. Most surviving sites have remains of root cellars, and gardening appears to have been almost universal. Some homesteaders raised horses, poultry and dairy herds. By 1981 all of the high Limestone homesteads in Pennington County had a common characteristic. None of them were permanently inhabited. Some were used as summer cabins or cow camps for summer grazing operations. Most were totally abandoned and have been extensively vandalized. Analysis of these homesteading experiences indicates a common theme: successful homesteading in the Black Hills above an altitude of approximately 6,000 feet was not possible. This homesteader's frontier, once significant in the Black Hills National Forest, is now extinct (Miller 1982).

There was one very successful farmer's frontier in the years after 1900. Passage of the Newlands Act of 1902 created the Bureau of Reclamation and provided the mechanism for large-scale federal irrigation projects. As noted above, small-scale irrigation in the Black Hills had been practiced since the gold rush era. The first project planned under the Newlands Act authority was the Belle Fourche Irrigation Project. The water source for the undertaking was the Belle Fourche River, and the storage facility was Orman Dam, at that time the largest earthen-fill dam in the world, constructed on Owl Creek east of Belle Fourche. Almost 90,000 acres of irrigated land was sold in plots of 160 acres each, and new communities of Newell and Nisland were established as the dam was constructed in the years 1909-13. Sugar beets and a number of other crops new to the Black Hills region were introduced. Great enthusiasm for other irrigation projects around the Black Hills was generated, but the reality of limited Black Hills water resources eventually prevailed. There were no more projects until after World War II. The Angostura project on the Cheyenne, the Keyhole project on the Belle Fourche near Moorcroft, and the Deerfield and Pactola projects in the Rapid Creek drainage provide only limited water for irrigation, and are useful chiefly for recreation and local flood control (Froiland 1978; Stewart and Thilenus 1964).

The years following the First World War brought some changes in agriculture in the Black Hills region. Drought and depressed economic conditions in agriculture caused many prairie homesteads to fail in the area. As noted above, the environment faced by many Black Hills homesteaders was too severe to allow success. In some instances, the settlers had no intention of remaining permanently on the land, and stayed only long enough to "prove-up" on the land and then

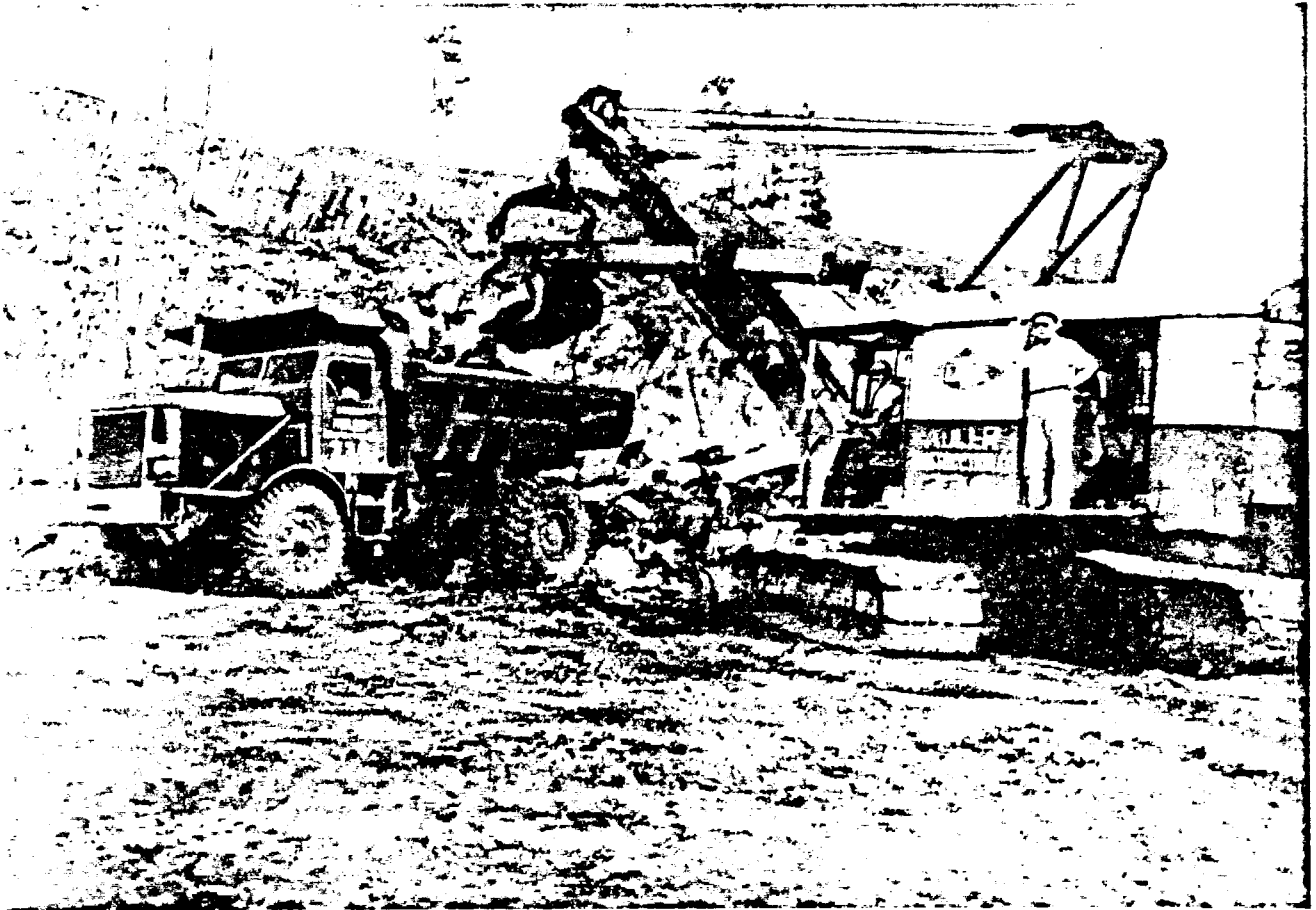


Fig. 9-68: Pactola Dam, shown here under construction, changed the Rapid Creek drainage and provided new water supplies and recreation opportunities for Black Hills residents and visitors (courtesy South Dakota State Historical Society).

sell it. These factors, both inside and outside the Hills, caused a process of consolidation of small agricultural units to begin in the 1920's. To a limited extent, this process continues to the present. Larger farming and ranching units in the region may include all or part of dozens of smaller parcels, each with its own unique personal history.

Near Black Hills cities, a process of subdividing agricultural lands has occurred. Larger farm and ranch land-holdings have been divided into smaller residential plots. Spearfish Valley north of Spearfish, and Rapid Valley east of Rapid City, provide excellent examples of this process. Improvements in the Black Hills secondary road system since World War II have allowed the process to take larger and larger areas. Dislocations of population caused by events such as the construction of Interstate 90 from Rapid City to Sundance, and the creation of the flood plain through Rapid City following the 1972 flood, have also been significant. In each of these cases, a major impact has been conversion of agricultural land for residential purposes, in order to handle population diverted from other areas. Current large-scale development of leisure and year round homes in areas such as Terry Peak and Pactola Lake has enlarged the process of land diversion to include forest and well as agricultural land (Miller 1984).

LOCAL GOVERNMENT

The tremendous economic and social development of the Black Hills region created the need for governmental structure there. In the years following the beginning of the gold rush, both Dakota and Wyoming Territories took steps to start county governments in the region. The Dakota Territorial legislature created Lawrence County (for Territorial legislator John Lawrence), Pennington County (for Territorial Governor John L. Pennington), and Custer County (for General George A. Custer). All three counties were organized in 1877. In the case of Lawrence and Pennington, the attempt to designate county seats at townsites owned by promoters from the eastern part of the Territory, sparked controversy before local populations gained control of the process. The Lawrence County seat was moved from Crook City to Deadwood, and the Pennington County seat from Sheridan to Rapid City. Custer City has always been the Custer County seat.

Additional Black Hills counties were created in Dakota during the years following the gold rush. Fall River County, named for the river originating from the springs in and around Hot Springs, was established and organized in 1883. Hot Springs was the County seat. Organized the same year, Butte County (named for the numerous buttes in the area), had been established in 1881. Minnelusa was briefly the Butte County seat before being eclipsed by Belle Fourche. The last Dakota County created in the Black Hills was Meade County. Established and organized in 1889, Meade County is the largest county

in South Dakota (2,234,240 acres) and is three times the size of the State of Rhode Island. Meade was created by taking most of the area of Lawrence County. Like Fort Meade, Meade County was named for General George G. Meade (Robinson 1925).

Wyoming Territory's original county organization consisted of five counties which stretched from north to south across the entire territory. The Black Hills area was included in Laramie County. As part of the process of subdividing the original five counties, Crook County was created to cover most of the northeastern corner of the Territory in 1875. Original Crook County included all of what is now Crook, Campbell and Weston Counties. Crook County was not organized until 22 January 1885, and Sundance was chosen as the County seat. The coming of the Grand Island and Wyoming Central Railroad to southern Crook County, and the development of coal mines in the region, created a movement to divide the county. In 1890 the last Territorial legislature established Weston County, named for Jefferson B. Weston, a geologist for the Newcastle Coal Company. Newcastle became the County seat (Larson 1977; Crook County Historical Society 1979).

The admission of South Dakota to the Union took place in November of 1889, and Wyoming in July of 1890. The process of fully integrating the Black Hills region into the American political structure was completed.

FEDERAL ACTIVITIES IN THE BLACK HILLS

The end of the territorial system in Wyoming and South Dakota did not end the federal presence in the Black Hills region. In the Twentieth Century the Black Hills National Forest would comprise the largest federally controlled land area in the region, but it would be far from the only one. Holdings of the State of South Dakota also became an important element of the public lands in the Black Hills. The Forest and other federal holdings served tourist, mining, agricultural and timber industries that depended on a tightly interrelated group of public and private resources. This relationship was destined to become one of the most important components of the social and economic systems of the Black Hills in the Twentieth Century.

As interest in the potential for resource management in the Black Hills grew during the years following the gold rush, the federal government made a commitment to fish in the Black Hills before commitments to forests. Many early Black Hills settlers were surprised to learn that, while the Black Hills had many of what appeared to be trout streams, no trout lived in them. The only native fish in Black Hills streams were several varieties of sucker. Interest in developing a trout fishery led Rapid City journalist Richard Hughes to order trout shipped to Rapid City from the nearest rail connection at Sidney, Nebraska in 1883. Few of the fish survived the trip,

but those that did were soon thriving in Rapid Creek. Several U.S. Bureau of Fisheries research teams surveyed Black Hills streams in the early 1890's, reporting that they offered excellent trout habitat. Distance from the nearest federal trout hatchery at Leadville, Colorado continued to pose problems for attempts to stock Black Hills streams, and a movement to gather support for construction of a federal hatchery in the Black Hills began in the early 1890's. These efforts were successful in 1896, when South Dakota Senator Richard Pettigrew secured an initial \$5,000.00 appropriation for construction of a Black Hills facility. Engineers from the Bureau's Washington office surveyed sites in the Hills and narrowed the choices to springs along Spearfish Creek at the southern end of the city of Spearfish, and Cleghorn Springs, two miles up Rapid Creek from Rapid City. Spearfish was selected (although the South Dakota Department of Game, Fish and Parks would establish a hatchery at the Cleghorn site several years later) and construction of the Spearfish National Fish Hatchery began in early 1899.

The opening of the Spearfish facility began a new era in Black Hills fisheries. Headed by an aggressive young superintendent, D.C. Booth, the Spearfish hatchery stocked Black Hills streams and furnished fish for waters as far away as the North Platte River at Saratoga, Wyoming. The first Black Hills stocking was in the Spearfish Creek drainage during April 1900. Until the 1920's, most fish were shipped by rail in ten gallon cans. Early stockings were primarily brook and cutthroat trout, with rainbow and brown trout becoming more common after 1911. From 1901 to 1910, the Spearfish hatchery was also responsible for fisheries management in Yellowstone National Park. Booth and other members of the hatchery staff travelled to the park each summer and gathered eggs from spawning fish at the mouths of streams entering Yellowstone Lake. Most of the eggs hatched in western trout hatcheries came from this source during the 1901-10 era. New hatching techniques and many trained fisheries personnel also resulted from the operations at Spearfish in the period up to the 1930's. When Booth retired in November of 1933, he was generally regarded as the "grand old man" of western fisheries management.

Increased pressure on Black Hills fisheries in the form of a rise in the tourist industry and deterioration in water quality brought a new phase to Black Hills fish management. Siltation, pollution and declining spring flows caused a marked decline in the miles of trout streams in the Black Hills during the period from 1900 to the mid-1960's. Tourists demanded trout that were catchable. Lakes such as Deerfield, Sheridan and Pactola offered a new kind of trout habitat. Because brook trout demanded higher quality water, and brown trout were more difficult to catch for most anglers, those species lost favor with fisheries management, and stocking

activities concentrated increasingly on the rainbow, the best compromise, given the above conditions.

Increasing fishing pressure brought the construction of the State of South Dakota's Cleghorn Springs hatchery on Rapid Creek at the western edge of Rapid City. When spring flows at the Spearfish hatchery declined, the State of South Dakota and the U.S. Fish and Wildlife Service entered into a cooperative agreement to construct the McNenny hatchery along Crow Creek, west of Spearfish, in the late 1940's. Purchase of Ranch A, along Sand Creek on the Wyoming side of the border (once the vacation retreat of Philadelphia publisher Walter Annenburg), gave the federal Fish and Wildlife Service an additional Black Hills facility. Ranch A was used for fisheries research, and incorporated classic log buildings at the site with contemporary structures used for research and for training fisheries personnel.

Recent developments have largely ended the federal presence in Black Hills fisheries management. In 1983 the Fish and Wildlife Service closed the Spearfish and McNenny facilities. Since the cooperative agreement stipulated that the McNenny facility would revert to the State of South Dakota, McNenny continues to operate as a state facility. The old Spearfish hatchery, which includes the hatchery and superintendent's residence listed on the National Register of Historic Places, has become the D.C. Booth Historic Fish Hatchery, operated as an historic site by the City of Spearfish. Stocking of fish in Black Hills streams, including those in the Black Hills National Forest, is now almost entirely a function of the State of South Dakota (Miller 1984).

TIMBER AND LOGGING IN THE BLACK HILLS

As an industry, the timber industry is almost as old as mining, and in fact, the two have generated almost the same amount of controversy. Because of the close relationship between logging and Forest policy in the Hills, these two subjects will be considered together here. As a symbol of continued federal involvement in the Black Hills, management of Forest resources may have followed fisheries, but the federal timberland has always been the most important to them.

The first Black Hills sawmills were sawpits, with boards sawed by hand. Custer had a steam powered sawmill run by Tom Manahan, Pat Murphy and Dave Ducent in 1876, and by 1895 there were 20 sawmills operating in the Custer area. Steam powered mills in Deadwood were producing thirty thousand board feet per day by late summer of 1876. In 1884, Spearfish could boast five mills. Limited transportation insured that mills would only serve local markets, and these mills would have to relocate frequently as timber supplies within easy distance of horse-drawn wagons were exhausted.

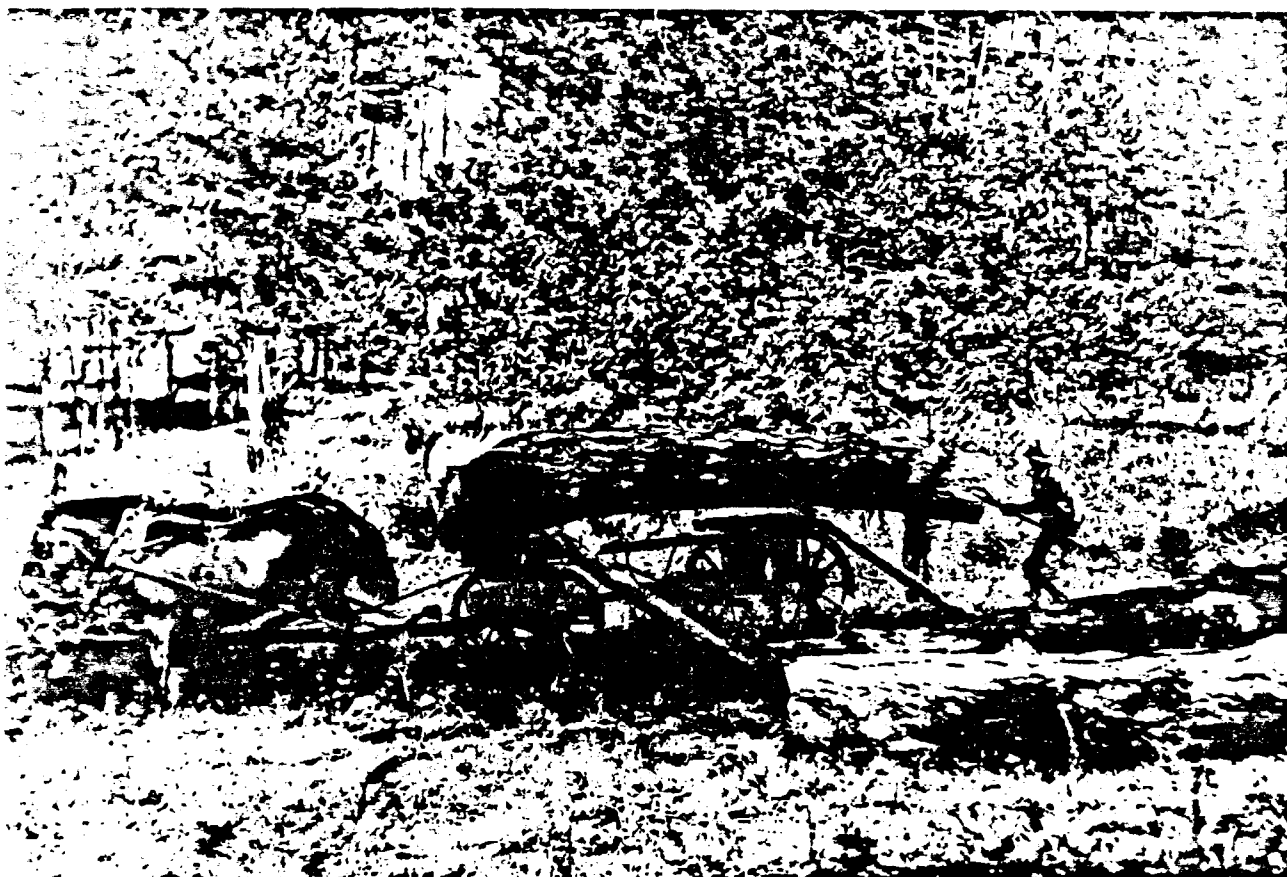


Fig. 9-69: Before the coming of motor transportation, this horse-drawn wagon was the alternative to logging railroads for hauling timber to Black Hills sawmills (courtesy South Dakota State Historical Society).

Clear cutting was a common practice, and Hills photographs taken in the late 1870's and 1880's often show hillsides completely stripped of standing timber. Logging to supply firewood exerted an early impact on Black Hills timber. In addition to winter fuel supplies, wood was the only source of fuel for steam boilers in mines and other industries until railroads reached the mining districts in 1890. Coal replaced wood in most industrial operations after this date, although some smaller mines and isolated sites continued to burn wood. In fact, the development of early narrow gauge lines in the 1880's was due to an overdemand for firewood in the Lead-Deadwood mining districts (Sundstrom 1977; Parker 1981; Andreas 1884; Fielder 1964).

There were no efforts to manage the forest resources of the Black Hills during the 1870's and 1880's. As noted elsewhere in this report, part of Fort Meade included a timber reserve. This area was marked and patrolled periodically by personnel from the Fort. However, logging on Public Lands was unregulated. Generally, loggers and firewood cutters simply

took what they wanted from Public Lands, although the Homestake and some other mining companies did purchase some land for the purpose of harvesting timber for fuel (Cash 1973).

The Beginning of the Black Hills National Forest

The potential for management of the Black Hills forests began with the passage of the Forest Reserve Act of 1891, intended to protect federal Forest lands from fire and "reckless cutting", and to preserve watersheds. The President of the United States was given the power to designate Forest Reserves on Public Land by proclamation. Administration of the reserves was left to the Department of the Interior's General Land Office, an agency with no expertise in forestry, and a mediocre record of protecting federal property. There would be no procedures for administering the Forest Reserves until an Act of Congress was passed (amendment to Civil Service Act of 4 June 1897) which established a system of organization and procedures (USDA 1948, 1967).

The Black Hills Forest Reserve was created with a proclamation signed by President Grover Cleveland on 22 February 1897. The proclamation set aside 967,680 acres. Twelve other reserves totalling over 20,000,000 acres were designated in the same proclamation. In almost every instance, these reserves were created with only local consultation, and without detailed knowledge of the lands that were set aside. The Black Hills reaction was largely unfavorable. The Forest Reserve Act did not allow filing of any kind on Reserve lands, and local feeling was that President Cleveland had ended the possibility of future homesteading, logging and mining within the Reserve. South Dakota Senator Richard Pettigrew, former Senator Gideon Moody (general counsel for Homestake Mining Company), and delegates from surrounding states called on new President William McKinley, urging him to remove the Hills from the Reserve in March 1897. McKinley was unable to do this, but he was receptive to suggestions that the Forest Reserve Act could be amended to allow some use of resources on Forest Reserves. As a result, an amendment to the Civil Service Act was passed on 4 June 1897, marking the beginning of multiple use management of Forest resources. Basic provisions included no revocation of existing Forest Reserves, but new lands could be added to Reserves only to improve Forests, secure water flow and furnish continuous timber supply. Lands useful chiefly for mining or agriculture could not be included in Reserves. Reserves were opened to mining and prospecting, and the Secretary of the Interior was authorized to make provisions for the protection and administration of them, including the sale of timber. For students of Black Hills history, it is interesting to note that the Hills provided the focus for resolution of an issue of national significance: management of the Forest Reserves. During the following five decades of developing federal Forest policy, this would frequently be the case (Newport 1956).

On 1 March 1898, McKinley reaffirmed Reserve status for the Black Hills Forest Reserve. Funds for management of Forest Reserves were not available until the beginning of the new fiscal year on 1 July 1898. The General Land Office appointed special agents to administer Reserves until Forest Supervisors could be named. Special Agent R.C. Greene assumed responsibility for the Black Hills Reserve, but his time was occupied by the investigation of dozens of timber trespass cases. In August 1898, H.G. Hanamaker of Indiana became the first Supervisor for the Black Hills Forest Reserve. Hanamaker arrived in Custer, where he established his headquarters. He soon found that Homestake Mining Company and a number of other interests were anxious to develop the resources of the Black Hills.

Lumbering For The Homestake

Homestake Mining Company wrote its own chapter in Black Hills logging history. The mine's need for firewood and lumber made it a major consumer of Black Hills timber. Construction of the Black Hills and Fort Pierre Railroad helped fulfill this demand. Logging camps were scattered along the railroad, and operated in a fashion similar to that of other sawmills in the forests. By the early 1890's, the company was purchasing large tracts of forest along the South Dakota-Wyoming border in the Sand Creek and neighboring drainages. Homestake and the Forest Bureau combined efforts to solve the mine's timber supply needs and set an important precedent in National Forest management. Existing guidelines allowed sales of timber up to 160 acres. This limitation did not allow Homestake to purchase tracts of timber large enough to meet its needs. Consequently, the company was already logging on Forest Reserve lands near its sawmill operations in the Nemo area. Trespass proceedings were pending against the company because of it. To solve these problems, Homestake proposed a much larger timber sale within guidelines of the legislation of 4 June 1897.

The result was a milestone in United States Forest management history, the Case Number One Forest timber sale. Homestake had proposed a sale of thousands of acres. Supervisor Hanamaker examined the proposed tract in December of 1898 and submitted a field report in April of 1899. Homestake reconsidered and applied for a different area along Este Creek, about four miles west of Nemo. Hanamaker inspected and estimated a value of \$.75 per thousand board feet. General Land Office review recommended a price of \$1.00 per thousand, and that sale price was published 14 August 1899. Construction of a mill at Este began immediately, and the first logs were sawed in December 1899. The first major sale of timber in a Forest Reserve was complete. The precedent and sales procedures would be applied to dozens of other Forest Reserves in years to come (Cash 1973; Fielder 1970; Newport 1956).

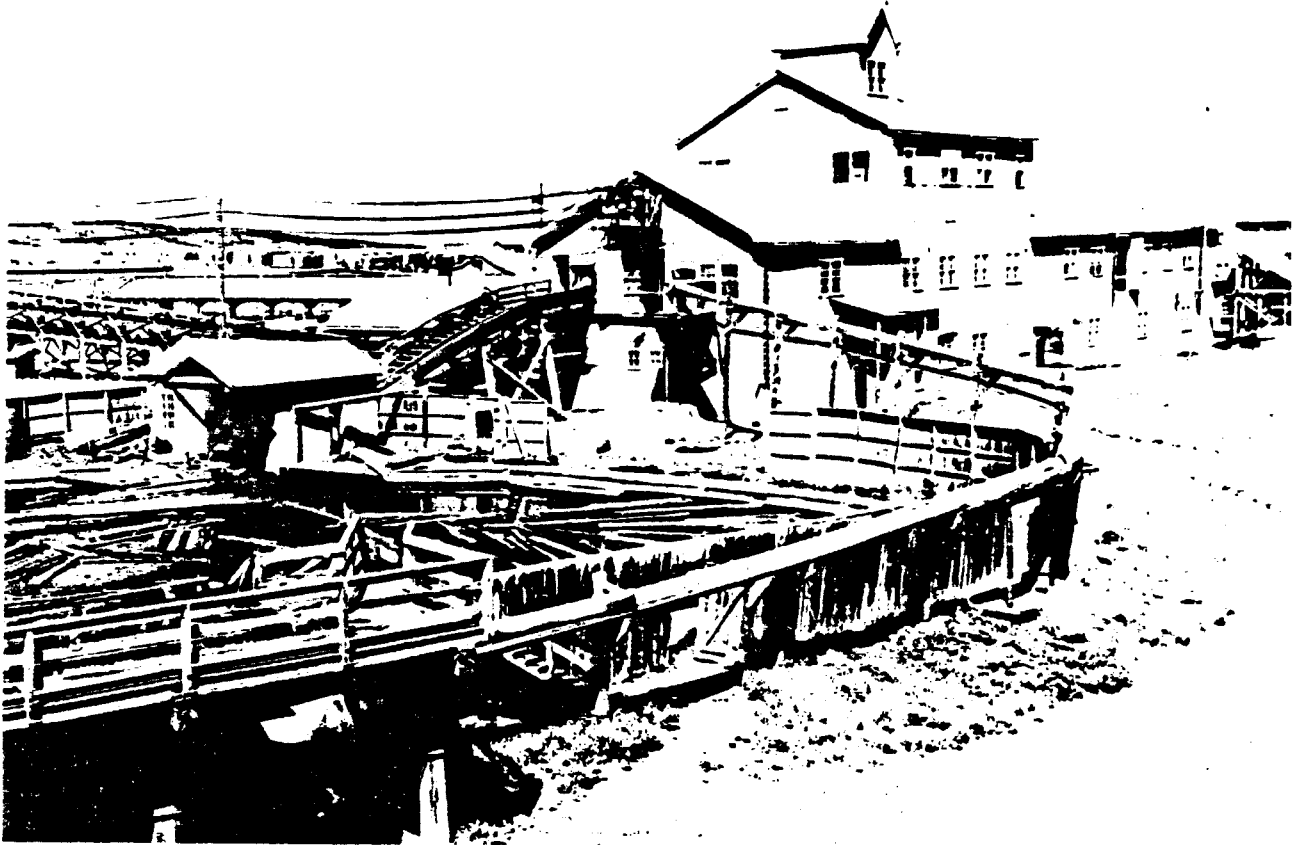


Fig. 9-70: Homestake Mining Company's Spearfish sawmill was constructed from parts of other mills which were moved from the forest to Spearfish in the late 1930's. This mill represented an example of the tendency to centralize sawmills into single large operations as the Black Hills road system improved.

Federal Forest Management

Management of the Forest required procedures and personnel, and the Black Hills Reserve had neither when Hanamaker arrived. In May of 1899, twenty of 219 applicants were hired as Rangers on the Black Hills Forest Reserve. All Rangers were local people. The Forest was divided into twenty Districts, each about two and one-half townships in size. Forest Reserves across the United States were apportioned into twelve Regional Districts. The Black Hills Regional Supervisor was based in the Department of the Interior offices in Sheridan, Wyoming, and was also responsible for the Yellowstone, Teton and Big Horn Reserves.

Delays in sale procedures were perhaps the biggest problem during this period. The Holy Terror Mine at Keystone was forced to close in June 1899 because paperwork for a timber sale necessary for fuel and mine timbers was not completed quickly enough. Loggers, such as Odo Reder of Custer, who continued to operate while sales were still being processed, were fined or jailed. Clearly, the message was that the Forest would be carefully managed.

In 1901, the Black Hills Reserve was detached from the Sheridan office and made directly responsible to the General Land Office in Washington. Seth Bullock, Black Hills businessman, pioneer and personal friend of President Theodore Roosevelt, became the Forest Supervisor. By this time, even larger organizational changes were coming. Consideration was being given to a transfer of the Forest Reserves from the Department of the Interior to the Department of Agriculture. A major reason for the contemplated transfer was the changing role of the Reserves. On 30 June 1886 Congress had created the Division of Forestry in the U.S. Department of Agriculture. The Division was primarily a research organization and administered no timber lands. By 1898, under the leadership of new Director Gifford Pinchot, the Division had become a strong voice for careful management of the Forest Reserves. Since the General Land Office had little expertise in forest management, it asked the Division in 1900 to prepare an example of a working plan for management of a Forest Reserve. The one chosen for study was the Black Hills Forest Reserve.

The selection of the Black Hills for study may have rested on several considerations. As noted, the political influence of Black Hills mining and industrial interests tended to focus attention on the region. The role of H.I. Graves may also have been a factor. Shortly after the creation of the Black Hills Reserve in 1897, Graves had made an extensive study of the Forest. The Graves report is now a neglected classic in the literature of Black Hills history and ecology. Graves identified the Black Hills forest as an excellent laboratory for the development of Forest Policy because it offered a steady market for lumber, mine timbers, ties and fuel; because of the excellent natural reproduction of trees; because there were timber stands of all ages; and because there was a good system of railroads and roads compared to many other western forests. By 1900 Graves had become superintendent of working plans for the Division of Forestry. The plan, prepared by E.M. Griffith, was never accepted by the General Land Office, but transfer of the Forest Reserves from the Department of the Interior to the Department of Agriculture insured that the developing management policies at the USDA would be those applied to the Forest Reserves (Graves 1899; Newport 1956).

Aside from a new departmental designation, the transfer changed little in the Black Hills Reserve. Bullock and other employees remained on the job. On 1 July 1905, a new case-book adopted for field personnel brought much simpler regulations governing management and sale of Forest resources. Only sales above \$100.00 required bids and advertising of sales procedures. The regional structure of what had, by then, been renamed the United States Forest Service, was changed on 1 December 1908. The Black Hills National Forest was placed under the District Forester in Denver. In 1911 the Black Hills National Forest was divided into two Forests

in a move to improve administration there. Almost equal in size, the northern Black Hills National Forest was headquartered in Deadwood, and the southern Harney National Forest in Custer (Graves 1899; Newport 1956).

Twentieth Century Lumbering

A number of economic changes ca. 1900 created a new logging and lumber industry in the Black Hills. Railroad building centering on the West River South Dakota prairies and Rapid City brought new transportation opportunities. The rush of settlers to the western part of the state created a large lumber market in an area that had no local supplies. Unlike Black Hills communities, the new prairie towns could not fulfill their lumber needs from small sawmills cutting local timber. Provision for contracts to log on U.S. Forest Service lands in the Black Hills raised the possibility of opening large new timber supplies. The Great Lakes region forests had traditionally provided lumber for the prairie states, but timber supplies there were rapidly being depleted, and Great Lakes lumber investors were looking for new sources and financial opportunities.

All of these conditions contributed to the arrival of a new firm in Rapid City. A group of experienced Michigan and Wisconsin lumbermen, sensing a fresh market, organized the Lamphere-Henrichs Lumber Company in 1907, building a mill

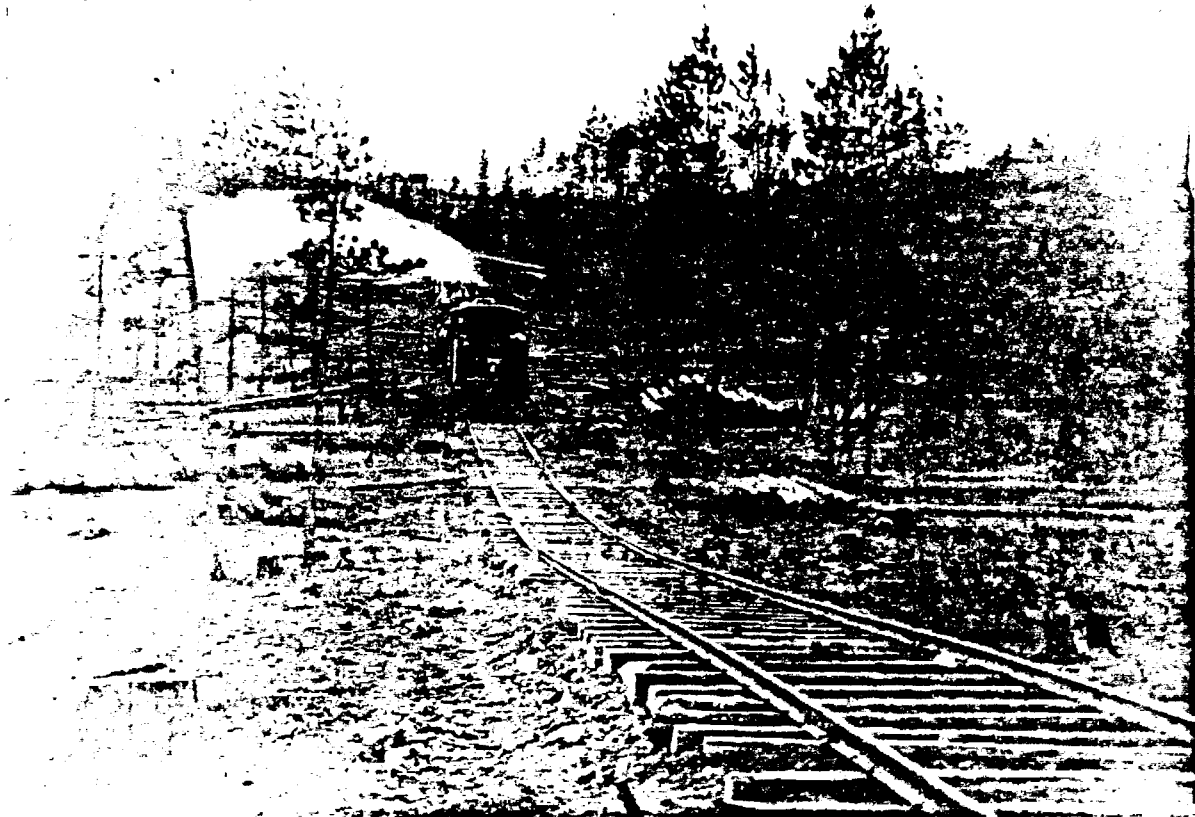


Fig. 9-71: The Lamphere-Henrichs Lumber Company represented an unsuccessful effort to apply large-scale Eastern logging techniques to rugged terrain. This 1907 photo shows standard-gauge railroad equipment in use (courtesy South Dakota State Historical Society).

north of Rapid Creek on the edge of the city, west of the present Civic Center Complex and Central High School. Timber contracts in the Victoria Creek area were arranged, and movement of lumber from the woods to the Rapid City mill would be via the Rapid City, Black Hills and Western Railroad from McGee Siding. The mill machinery used was moved to Rapid City from Wisconsin. Logs would be hauled from cutting sites to McGee using standard gauge locomotives and equipment similar to that in the Great Lakes lumber industry. Operation began in earnest in 1908 (Hood 1928).

Lamphere-Henrichs was never able to overcome a combination of bad luck and operations not suited to Black Hills conditions. Market and transportation conditions beyond Rapid City onto the prairies were favorable. Most of the difficulties existed in moving logs from the woods to the mill. Rugged Black Hills terrain required sharp curves and steep grades beyond the operational capability of the standard-gauged equipment. The company soon faced the options of skidding logs long distances to sidings, or totally changing its railroad equipment. They chose the latter. New cars and locomotives were Shay-g geared and designed for steep grades and sharp curves. Specially designed Russell logging cars were bought, and the track narrowed to thirty inches (narrower even than the common thirty-six inch narrow gauge). The new equipment created tremendous operating problems. The track was so narrow that large ponderosa pine logs created top-heavy and unstable loads. Derailments were

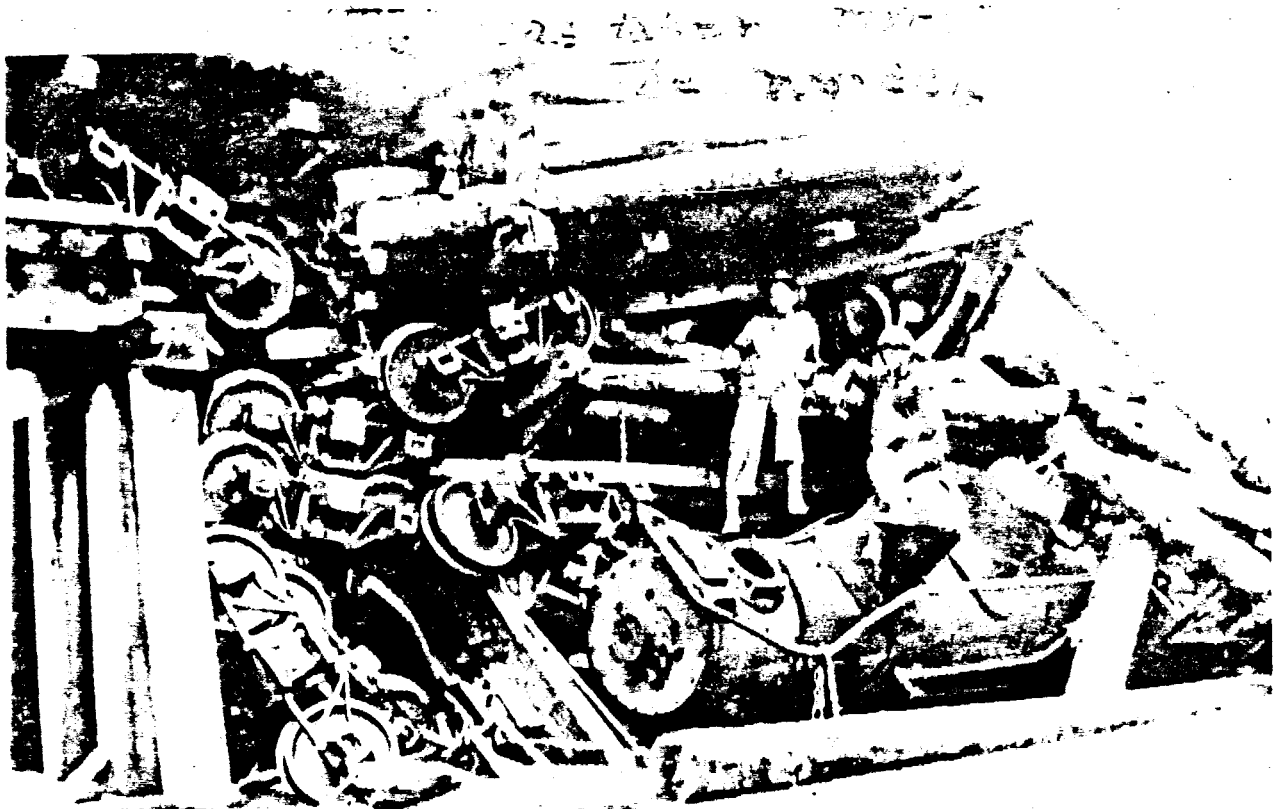


Fig. 9-72: Logging railroads in the Hills were expensive to build and dangerous to operate, as this June 1920 wreck on the Warren-Lamb Railroad out of Fairburn illustrates (courtesy South Dakota State Historical Society).

common, and there were occasional major wrecks. In the midst of these problems, the Rapid City mill experienced two major fires. Although markets for lumber and other mill products were good, there were great costs of operation.

In 1914 a sales manager for Lamphere-Henrichs named C.C. Warren contacted Lyman Lamb of Hinsdale, Illinois, and recommended that they purchase the company. Warren believed that better arrangements for moving logs to the mill and a reconstructed mill would allow the market around the Black Hills to be exploited at a profit. The result was the Warren-Lamb Lumber Company, a firm that would be a major force in

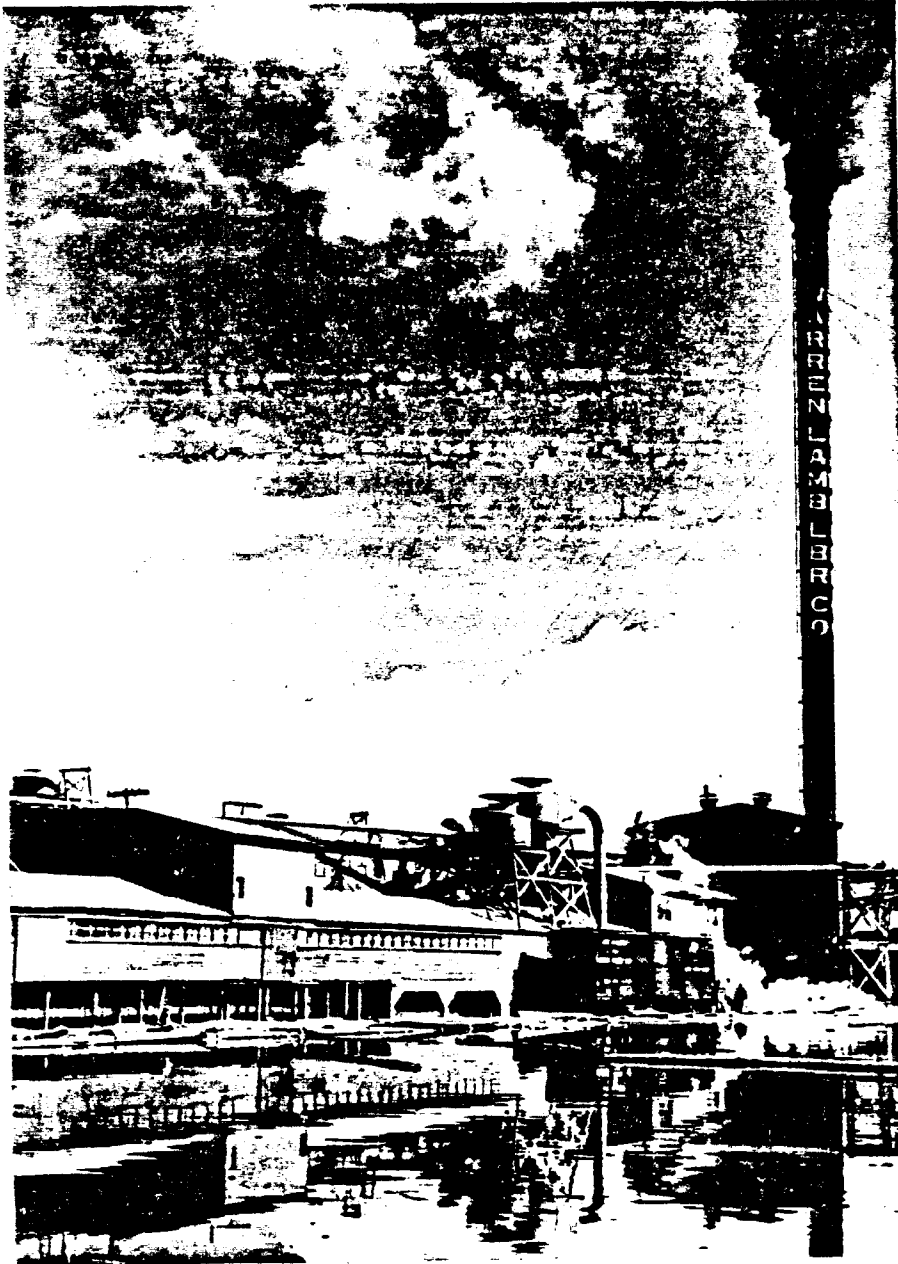
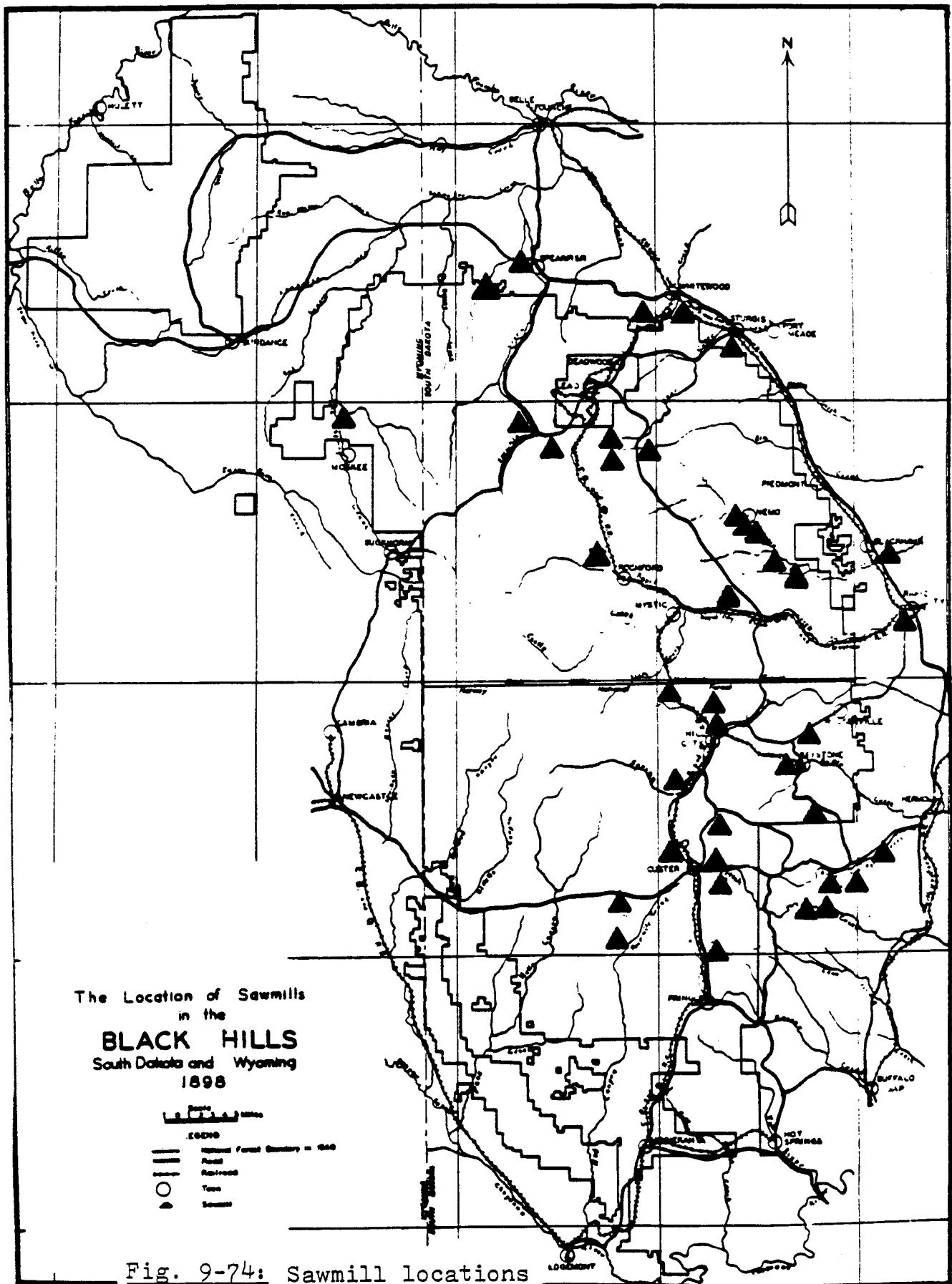
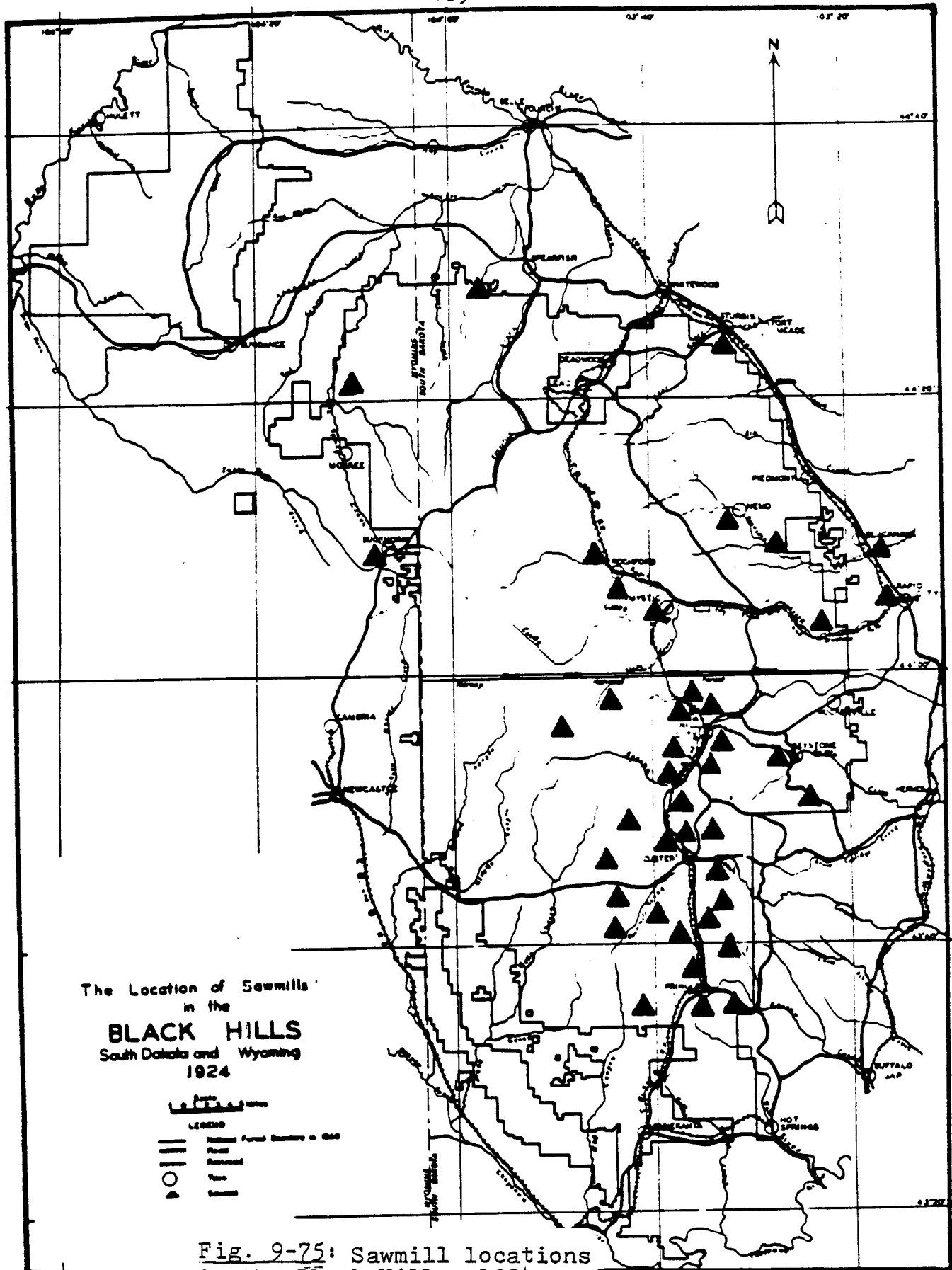


Fig. 9-73: The Warren-Lamb Lumber Company mill in Rapid City. Until World War II, Warren-Lamb was the largest lumber mill in the Black Hills (courtesy South Dakota State Historical Society).





Rapid City's economy and the Black Hills timber industry. Lamb recommended conversion of railroad equipment to conventional thirty-six inch narrow gauge and reconstruction of the mill. Lamb's suggestions made the firm an almost instant success. By late 1915, Warren-Lamb operations included 70,000 board feet per day milling capacity with an expansion to 85,000 feet and purchase of three new boilers in progress. The company had 330 men on payroll, and several hundred additional contractors employed in the woods. Products sold ranged from rough and finished lumber to moulding and boxes manufactured at a box factory near the mill. Fuel wood was sold in carload lots, as was ice-packing sawdust (Rapid City Journal 1915).

The large timber demands created by Warren-Lamb's success forced the company into an aggressive search for new timber resources. By 1915 the timber supply in the McGee area was exhausted. Locomotives, rails, cars and logging equipment were taken to the Deer Creek area, farther up the Rapid Canyon Line. The limited resources in this area were only expected to last two years, and the company looked at large tracts which could meet its needs for a greater period of time. Sites considered included Spring Creek in the region around Sheridan, and the South Dakota School and Publics Lands forests recently exchanged for land scattered across the Black Hills. The School and Public Lands tract was favored because of greater accessibility, and in 1916 Warren-Lamb became the successful bidder for twenty million board feet in the area. The Chicago and Northwestern would provide access for the logging railroad shipments to the Rapid City mill. The community of Fairburn became headquarters for the logging road and it experienced a major boom. A roundhouse, locomotive shops, warehouse and company hotel were built. The railroad to the timber area led from Fairburn to the present Custer State Game Lodge site. The first log train reached Fairburn in September of 1917.

Changes in the status of the state lands (discussed elsewhere in this report) created renewed timber supply problems for Warren-Lamb. The decision to leave much of the standing timber in what had been designated Custer State Park meant that much of the timber in the sale area could not be logged. Warren-Lamb was forced to consider other alternatives. Eventually, the company undertook three different approaches to the problem - all of them difficult. In the years from the early 1920's to the beginning of World War II, Warren-Lamb logged the least accessible sections of Custer State Park, using a tramway to hoist cars over grades too steep even for the Shay logging locomotives. An area along Slate Creek was logged with a water flume, and the Spring Creek area, discounted earlier as too inaccessible, was logged using challenging railroad routes.

Warren-Lamb's logging flume was one of the more unique chapters in Black Hills logging history. The use of flumes to transport logs was common in other logging regions with steep terrain and large supplies of water. In the Black Hills

flumes were almost exclusively a source of water to support mining activities. The logging flume concept resulted from Warren-Lamb's purchase of an isolated timber tract along Slate Creek in western Pennington County. The flume would carry logs from the upper reaches of the Slate Creek drainage for six miles to the Rapid Canyon Line. Western loggers with flume construction experience were hired to supervise the building. Five miles up Slate Creek, "Camp # 5" was established and a sawmill was constructed to saw the 1,500,000 feet of lumber needed for six miles of flume. The flume was made of one-inch lumber built into a "U" shape, supported with six by eight inch timbers in a bent and stringer pattern. Water for the flume was to be furnished from a dam at the head and additional dams at two-mile intervals. Grade in the flume had to be uniform and curves gradual in order to avoid log-jams. The operating life of the flume was estimated to be two years (Hood 1928).

There were many operational problems on the Slate Creek flume. Soon after it was completed, a flash flood on Slate Creek washed out large sections of the flume. After repairs were made, water levels in the creek fell and the flume could only be operated on a part-time basis. Much of the timber in the sale area was overmature, having rotted centers, resulting in the culling of a large number of trees. What had been planned as a two-year operation ran sporadically for five. Expenses and operating problems were so great that Warren-Lamb made no additional efforts to operate logging flumes in the Black Hills (Hood 1928).

Ultimately, Warren-Lamb was forced into the rugged Spring Creek timber area, which it had avoided developing earlier. Reduced demand for lumber during the Depression, and changes in the technology of Black Hills logging and the transportation picture in the forest made the Warren-Lamb operation much less economically viable than it had once been. Supplies of cheap labor characteristic of the Depression years from 1932 to 1937 offset some of these economic difficulties. By 1938, however, the future of the firm was uncertain. The construction of Lake of the Pines (Sheridan Lake and Dam) blocked the company's logging railroad. Fires at the Rapid City mill added to the company's problems. The coming of changes in the lumber industry following World War II ended the Rapid City operation (McEntree 1940; Newport 1956).

Part of the reason for the decline of the Warren-Lamb operation was created by technological changes in logging and management policies governing Forest Service contracts. As the resources of the Harney and Black Hills National Forests were inventoried during the years before the early 1920's, policies were developed to allow Forest resources to be utilized in a more specialized fashion. These policies were based on data gathered by timber cruisers who had measured and tallied

ten percent of the Forest. The results were integrated into working circles which were, in turn, divided into logging units. The working circles were large areas determined by topography. Ideally, all the timber in each working circle could be moved downhill to sawmill sites. Logging units were determined by a combination of timber stands and topography. Units ranged in size from a few hundred acres to over seven thousand. Clearcutting had been abandoned as a logging practice within the Forest, and working circles would be logged in ten-year cycles (Ginter 1928).

These management policies left some opportunities for small sawmills, particularly in minor logging units without access to railroad connections with large sawmills. By the early 1920's small mills began using gasoline engines to power



Fig. 9-77: Like many smaller Black Hills sawmills in the late 1930's, improved highway access was an important element of this mill's operation (courtesy South Dakota State Historical Society).

saws. This allowed the mills to be moved more frequently and eliminated some water and fire problems associated with steam engines. Gasoline also eliminated the expense of hiring firemen who were required for steam engines. Skidding was still being done largely with horses, but sawed lumber was hauled to local markets by truck. By 1928 there were thirty-two small mills operating in Harney National Forest alone, and their output was roughly \$500,000 per year (Ginter 1928).

Changes in the mining industry also exerted considerable impact on logging in the Black Hills during the 1920's. As most larger mines closed, the demand for mine timbers and other lumber for mining purposes decreased sharply. Homestake Mining Company fulfilled most of its timber needs from its own mills which continued to be shifted periodically as local timber supplies were exhausted. By the end of the decade Homestake used trucks for most shipments, and remaining CB&Q and CNW narrow gauge rails were abandoned as this source of traffic disappeared. Some logging resources which had supplied the non-Homestake mining demand shifted to the small mill type operations discussed above (Newport 1956).

The Depression years brought some important changes in the Black Hills and Harney National Forests and to the Black Hills logging and lumber industries. After the beginning of the Depression in 1929, the number of timber sales fell rapidly from twenty-four in 1929 to eleven in 1930. By 1932 economic conditions were so bad that there was only one timber sale in the Black Hills, and only one in 1933. Volume of all timber cut decreased from 45,000,000 board feet in 1929 to 8,000,000 board feet in 1932. The Harney National Forest was especially hard hit, since it was a major supplier of ties and car door lumber for the CB&Q. In 1931, the Burlington announced that it had a two-year supply of these materials, and would sharply curtail purchases from sawmills in the southern Hills. The unique position of Homestake Mining Company during the Depression created a somewhat different picture in the northern Hills. The Roosevelt administration's decision to abandon the gold standard as the basis for the U.S. monetary system placed Homestake in an unusual position. The federal government would purchase all U.S. gold production at a fixed price. This meant that Homestake had a guaranteed price for unlimited quantities of gold at a time when its labor and materials costs were falling. Unlike almost everyone else in the Black Hills region, Homestake management still remembers the 1930's as the "good old days". Limited efforts were made to operate other mining properties. Mining demand made the logging picture somewhat brighter in the northern Hills. Small sales of \$500 or less increased during that time. Some mills were unable to bid on larger sales. A number of unemployed persons attempted to run small sawmills, and numbers of these increased sharply during the Depression (Cash 1973; Newport 1956; Snow 1940).

Pricing policies and freight rates posed difficult problems for Forest Service programs and the Black Hills timber industry during the 1930's. Sharp reductions in lumber prices were not reflected in stumpage rates for timber sale offerings. These prices remained at the levels of the 1920's until 1938 to 1940, when they were adjusted downward. Warren-Lamb, Homestake and other contractors appealed for adjustments with no success. Consequently, many sales found no bidders. Warren-Lamb took only minimums allowed in the sale contracts. Most

Homestake logging in the Nemo area ended by 1934, and much of the sawmill equipment at Nemo was shifted to its own timberlands near Moskee, Wyoming. When the Civilian Conservation Corps and other Depression-era programs made great improvements in the Forest road system, Homestake again moved its sawmilling operations, concentrating all activities at Spearfish in 1940 at a mill complex combining new and old equipment (Fig. 9-69). The Spearfish location was centrally located for use of several Forest Service working circles and most Homestake timberlands. Several close calls with forest fires at Homestake sawmill camps in the late 1930's also made the Spearfish location more attractive. Through the 1930's, railroad freight rates continued to frustrate Black Hills loggers. Western Nebraska and Wyoming markets were served by railroads offering more favorable lumber rates to mills in the Northwest. Only at eastern Nebraska points could Hills sawmills ship for competitive rates. All of the above factors combined to create a depressed Black Hills timber industry during the years prior to World War II (Cash 1973; Fielder 1970; Snow 1940; Newport 1956).

The Depression also brought considerable change to a neighboring National Forest that would eventually be integrated into the Black Hills National Forest. The Bear Lodge Forest Reserve had been created in 1907, shortly before Congress unilaterally imposed a ban on Forest Reserve extensions in Wyoming and five other western states. The last Wyoming Forest Reserve created, the Bear Lodge consisted of scattered parcels of Forest land almost all located in Crook County north of Sundance. Until the Depression era, there was very little commercial logging beyond that needed to supply very localized and limited nearby markets. Experiencing a process of small-scale logging by unemployed labor similar to that in the Black Hills, the Bear Lodge saw a large expansion in the number of sawmills during the 1930's. Much of the logging was done on private forest lands, but there were a number of sales in the National Forest under \$500. Especially significant for the future was the use of trucks in Bear Lodge logging. One historical disadvantage of the Bear Lodge had been its lack of rail access. Improving county and Forest roads and state highways made truck transportation more feasible. Trucks also began to haul lumber to points in Wyoming where rail shippers faced the unfavorable rate structure noted above. The lesson learned was that truck transportation offered the opportunity to open new markets to lumber from the Black Hills area. This resulted in some sweeping changes in the Black Hills lumber market in the years following World War II (Larson 1977; Crook County Historical Society 1979; Newport 1956).

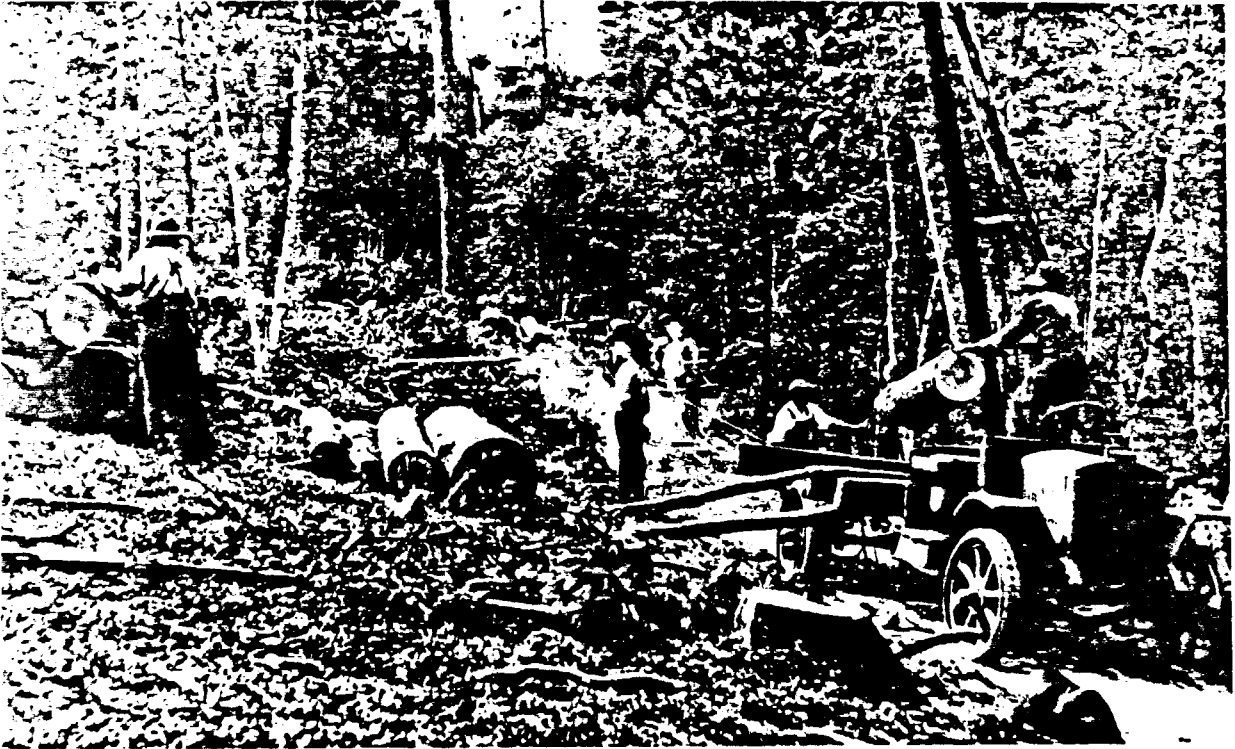


Fig. 9-78: Motor transportation comes to the Black Hills. Horses are still used for skidding at the time of this photo in the 1920's, but trucks are beginning to haul logs to the mills (courtesy South Dakota State Historical Society).

LIVESTOCK ON THE FOREST

The Bear Lodge and Black Hills Forest Reserves shared roles in a Forest policy controversy which intensified during the dry years of the 1930's. The question of grazing rights within the federal Forest lands was as old as the Black Hills and Bear Lodge Reserves themselves. Historically, federal Forest lands were used for grazing without charge in a fashion similar to the use of prairie grasslands in the days of the range cattle frontier. This condition changed following Congressional passage of the Act of 4 June 1897 that provided guidelines for management of the Forest Reserves. Provisions for grazing permits were established, and those grazing livestock within the Reserves were expected to have permits or face legal penalties. The objective was to limit the number of livestock to the carrying capacity of the Forest, and avoid damage to the quality of the grazing resources. Since most of the Forest was unfenced and there were no range studies available, early attempts at regulation were largely unsuccessful. Stockgrowers resented bureaucratic intrusions on what they considered to be their historic rights.

This controversy intensified in 1906 when a system of fees for the use of grazing allotments was introduced. The almost immediate creation of the Bear Lodge Reserve made the process appear to be a conspiracy to force fees for the use of land which could have been used free until the creation of the Reserve. The Black Hills and Bear Lodge Forests were also focal points for controversies over the grazing of sheep on Forest lands. Sheep have existed on the Black Hills range from the early 1880's. Difficult economic conditions, drought and changes in U.S. wool tariffs by the late 1890's made sheep raising much more economically viable. In 1900 the Empire Sheep Company became established about two miles west of Moorcroft, and large-scale sheep raising invaded the Crook County range west of the Bear Lodge Mountains and the Black Hills. By 1905 a number of small ranches with grazing permits on the Forest land had been purchased by large sheep outfits operating on the western edge of the Hills. Imposition of grazing fees the following year had little impact on well capitalized wool growers. Cattle raisers and small homesteaders in the Hills saw the sheep invasion as the end of cattle in the Hills. The common complaint was that the grazing habits of sheep would destroy grass and other forage in the Forest. Fear of financial and political strength of the large sheep operations was also a cause of opposition.

The climax of the cattle-sheep controversy came at a meeting presided over by the Chief Forester of the United States, Gifford Pinchot, at the Hardy Ranger Station in late July of 1909. Pinchot, Forest Supervisor Paul D. Kelleter of the Deadwood office, and three Forest Rangers, including long-time Black Hills resident Frank Thomson, had spent the day riding horseback across the Limestone Plateau. Following a meeting which lasted until midnight, and another the following day twenty miles south at the Ira Bacon ranch, Pinchot ordered sheep grazing banned in the Hills. His decision was based on sheep damage to range and young trees which he had observed. The ban on sheep remained in force for almost twenty years (Crook County Historical Society 1979; Newport 1956; Thomson 1974).

Difficult economic conditions of the 1930's brought renewed pressures for relaxed grazing restrictions in the Black Hills. Efforts to reduce grazing fees were combined with those to open the Hills to the livestock from the parched prairie lands. These issues were rendered less pressing by the livestock purchases and slaughter which followed the passage of the Agriculture Adjustment Act of 1933 and the application of more stringent grazing regulations to public range outside the National Forests after the Taylor Grazing Act became law in June of 1934. Nevertheless, the use of the Black Hills and Bear Lodge for grazing would remain a source

of controversy in the post-Depression era. Surrounded by vast stretches of dry prairie range, the well-watered Hills stood as an island of quality range in a shortgrass prairie sea. Under these circumstances, there would never be enough National Forest range to satisfy the demand (Newport 1956; Thomson 1974).

THE CIVILIAN CONSERVATION CORPS IN THE BLACK HILLS

In a number of other ways, the Depression era changed the forests of the Black Hills. The birth of the Civilian Conservation Corps began a new chapter in the histories of National Forests in the Black Hills. Signed into law by President Franklin D. Roosevelt at the end of March 1933, the CCC Act began a unique experiment in United States resource management. The CCC was created to put unemployed young men to work and to provide for improvement of Public Lands and property. The original program was authorized for two years. Responsibility for organization and administration was divided among several parts of the federal bureaucracy. The Department of Labor would formulate guidelines for selection of enrollees. The War Department would enroll, equip, clothe and house the workers. Actual work on CCC projects would be planned and supervised by the Departments of Agriculture and Interior.

Original procedures for selecting enrollees were based on need, which was determined by county relief directors. Expansion of the program eventually allowed any young man aged seventeen to twenty-three to enroll. Protests from World War I veterans also resulted in special veteran's camps. Veterans were allowed to keep their wives and families in camp. Enrollees received thirty dollars a month, twenty-five of which went to parents or to a special bank account. Normal work hours were eight hours a day, five days a week. Saturday and Sunday were for recreation and sport. Since many Black Hills camps were located in remote places, the camps were often forced to make their own recreation. Organized sports at the camps included baseball, softball, boxing and basketball.

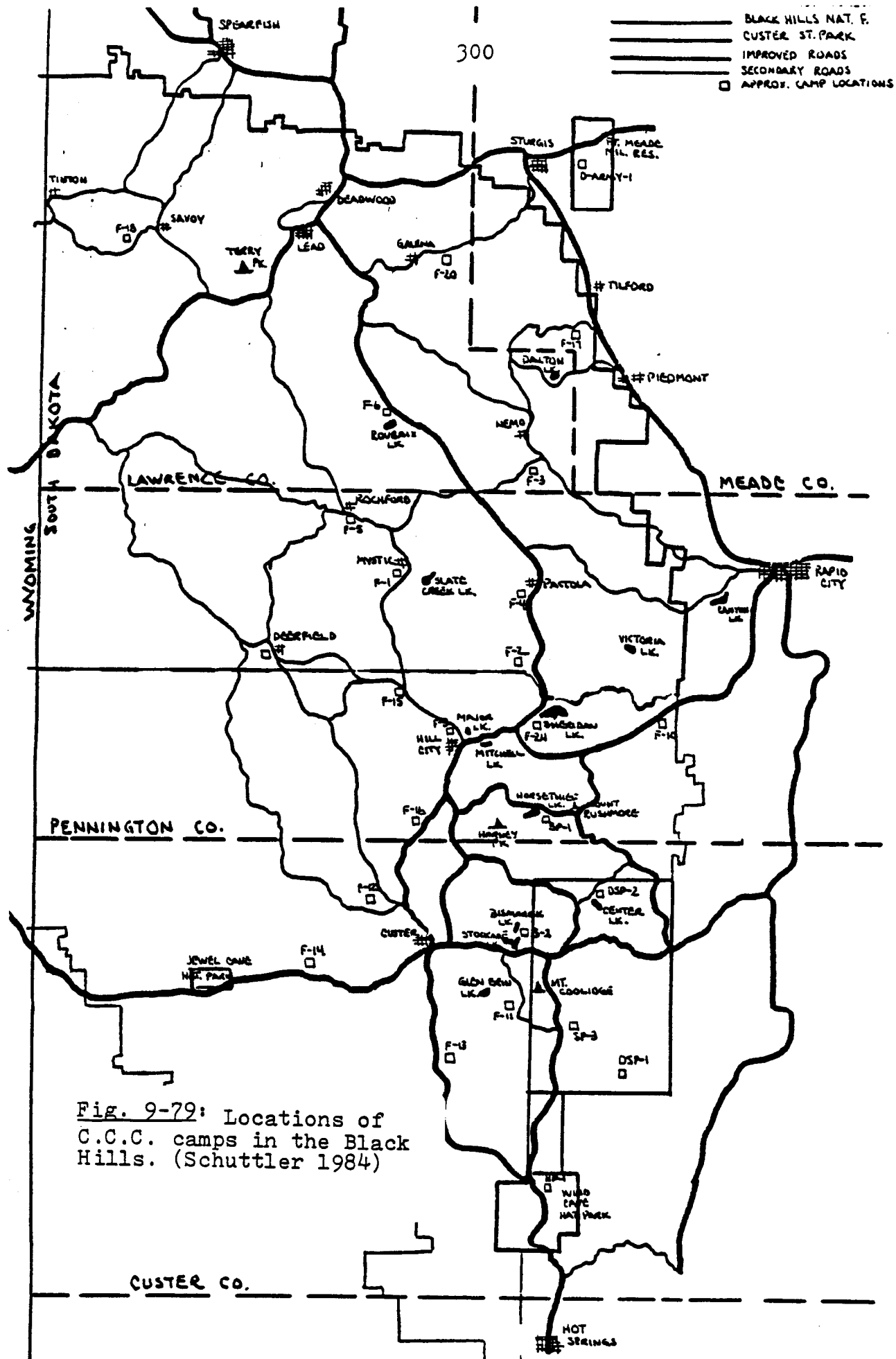
Administration of the CCC was largely the responsibility of Army personnel in the early stages of the program. Headquarters for the Black Hills CCC District was at Fort Meade, with sub-district headquarters for the Black Hills National Forest was at Deadwood, and for Harney National Forest at Custer. Regular Army officers and non-commissioned officers commanded the camps in 1933 and 1934. As numbers of camps increased and the program became established, reserve officers called to active duty became Camp Commanders. Cooks and civilian supervisors were hired to supplement regular military personnel and they received higher monthly pay than enrollees.

In many instances the enrollees needed practical training with hand and power tools, and local woodsmen and other skilled craftsmen were hired to provide practical training. Educational experience of enrollees varied widely, and many camps also soon found themselves in the business of providing basic education. In February of 1934, the position of educational advisor was established, and each camp soon had a qualified teacher. Up to ten hours a week were scheduled for educational purposes, normally outside of the regular working day, and libraries were either established at many camps, or arrangements were made to secure lending privileges at community libraries. Initially enrollees were sent to Fort Meade for medical examinations and two weeks of physical conditioning. Beginning in 1937, each camp could process and indoctrinate its own enrollees.

Black Hills CCC camps were varied and performed a number of tasks. In general terms, the twenty-seven camps that operated in the Black Hills area between 1933 and 1941 fit into one of seven designations:

F	-----	Forestry
S	-----	State Forest
SP	-----	State Park
DBR	-----	Drought Relief or Drainage, Bureau of Reclamation
DNP	-----	Drought Relief or Drainage, National Park
DSP	-----	Drought Relief or Drainage, State Park
D-Army	----	Drought Relief or Drainage, Army Reservation

By far the most common variety of CCC camp in the Black Hills region was the forestry camp. From the creation of the first camp, Este Camp (F-3), built near Nemo on 18 May 1933, the most important task was timber stand improvement. As noted elsewhere in this study, the success in efforts to control wildfire in Black Hills forests had led to the growth of many dense stands of young trees. Especially in dense ponderosa pine stands, thinning was necessary to allow the growth of healthy trees that would produce salable lumber. Black Hills CCC camps thinned a total of 204,000 acres of ponderosa pine, a total larger than that of any other CCC District in the country. Slash from thinning operations was piled and burned in winter, in areas bordering roads. Away from roads it was left on the forest floor. Areas infested by the mountain pine beetle were treated and dead trees were cut. Some wood gathered in these operations was shipped to eastern South Dakota, where it was distributed to the needy by relief organizations. Pine cones were harvested to collect seeds for tree nurseries. Small dams were built to stabilize soil erosion, and larger dams were constructed to



create recreation areas. These dams, most of which were on Forest land, included the following:

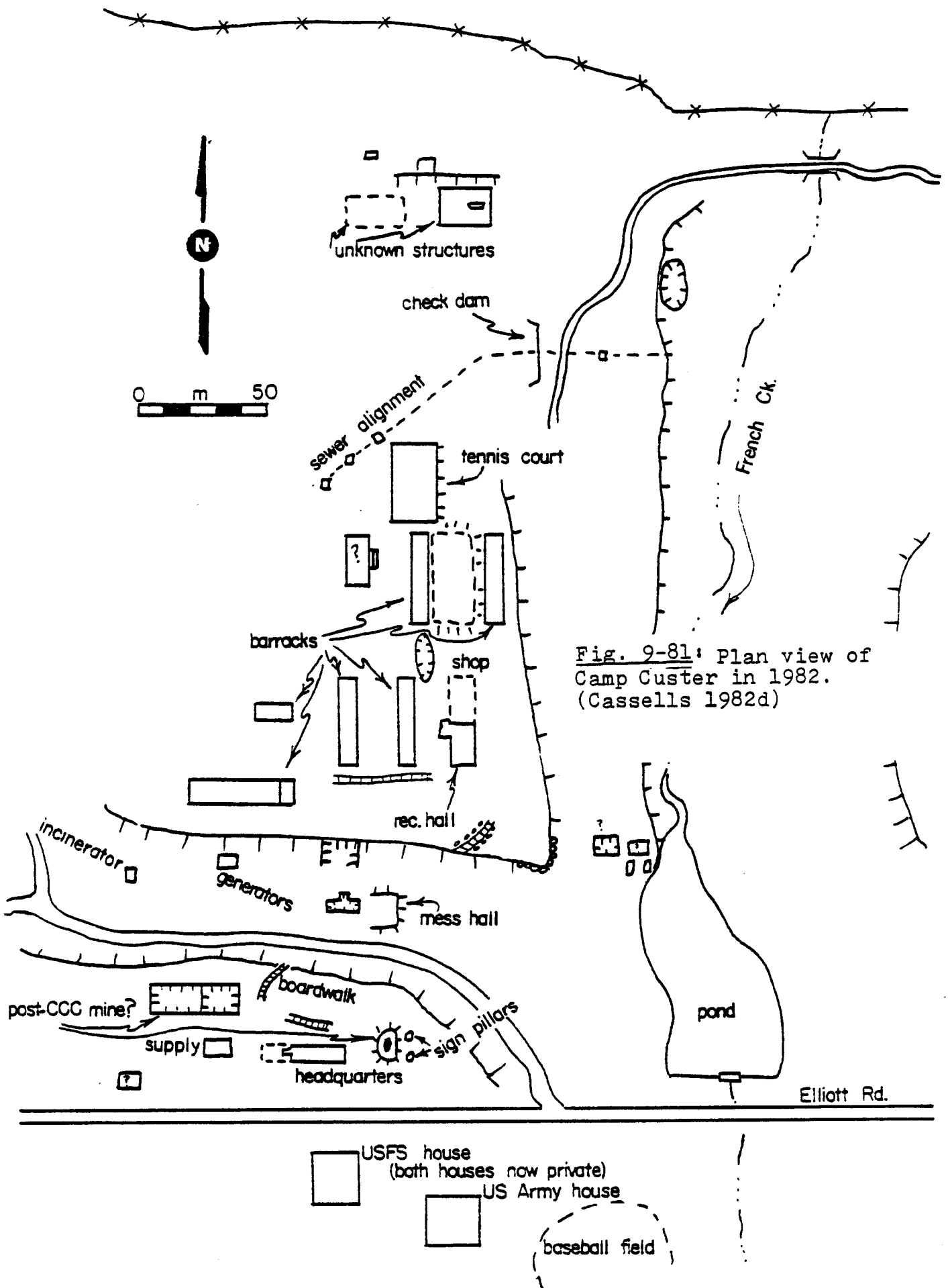
Bismarck Lake (Custer Co.)
Center Lake (Custer Co.)
Dalton Lake (Lawrence Co.)
Glen Erin Lake (Custer Co.)
Horse Thief Lake (Pennington Co.)
Major Lake (Pennington Co.)
Mitchell Lake (Pennington Co.)
Roubaix Lake (Lawrence Co.)
Sheridan Lake (Pennington Co.)
Slate Creek Lake (Pennington Co.)
Stockade Lake (Custer Co.)
Victoria Lake (Pennington Co.)

Among the CCC dams, the structure which created Sheridan Lake was especially significant. Built over the site of the old gold rush-era ghost town of Sheridan, Pennington County's first County Seat, Sheridan Lake was first called Lake of the Pines. The dam which created Lake of the Pines enjoyed the distinction of being the largest earthen dam project by the CCC program. The completed dam created a 380 acre lake and was 850 feet long and 126 feet high. Much of the earthwork was done with hand tools or simple machinery on most CCC dam projects in the Black Hills. Porous rock formations in the Black Hills created increased difficulties in holding water behind dams, and forced them to extra efforts in sealing lake beds. Dams were anchored with concrete cores that were created by pumping cement, under pressure, into holes drilled in base rock formations. Earth and rock fill was then used to cover the concrete cores. Lake beds were sealed with bentonite.

Fire control was also an important part of the CCC's forestry camps. Hundreds of miles of roads and fire trails were cut across inaccessible country. In some cases, these roads replaced the original ungraded roads along the bottoms of drainages which had provided access with little improvement since the gold rush. Loggers, miners, ranchers and recreational users were travelling on what amounted to a new generation of Forest roads in many parts of the Black Hills by the end of the CCC era. Construction of fire lookout towers on high peaks in the Black Hills (including all of the classic rock structures on Harney Peak) and supporting telephone lines were important CCC activities. CCC enrollees manned the towers during the summer. Temporary fire camps were built in areas of high fire danger. A fire crew of twenty-five to thirty men remained on call from May to October, and could be ready to respond to a fire call in fifteen minutes. For big fires, all CCC enrollees could consider themselves on call. Almost the entire Black Hills CCC contingent was on the fire line during the McVey burn, a 20,000 acre fire west of Hill City in 1939. In the area that is now the Black Hills



Fig. 9-80: (top) 1934 photo of Camp Custer (F-12) (courtesy BBNF) (left) view of same camp area in 1982 (Cassells 1982d)



National Forest, all the forestry camps but one were in South Dakota. The exception was located three miles northwest of Sundance, and it was attached to the Wyoming CCC District.

There were also a number of specialized CCC camps in the Black Hills area. Camp Doran (S-2) was established to do beautification work in Custer State Park. Camp personnel built dams for Bismarck and Stockade Lakes, built bridges and guard rails, and landscaped the area around the Game Lodge. Camp NP-1 made a number of improvements at Wind Cave National Park, including the construction of a new administration building, elevator and wiring for a cave lighting system, and landscaping. A new 11,000 acre fenced wildlife area was constructed in the Park. At Fort Meade, Camp Fechner (D-Army-1), supervised by the Army, installed improved sewer and water systems at the Fort, thinned timber and built a new rifle range on the Fort Meade Reservation. Camp DBR-2 at Fruitdale aided in a Bureau of Reclamation program to repair ditches, headgates and other works in the Belle Fourche Irrigation District. Probably the most unusual CCC activity was support provided by the project for the stratosphere balloon ascents from the Stratosphere Bowl near Rapid City in 1934 and 1935.

Widely recognized in the Black Hills for the improvements made, the CCC program was a casualty of the return to prosperity and the coming of World War II. The CCC ended on 1 July 1942 through Congressional action. On 10 July, the remaining five camps in the Black Hills were closed. These were Camp Este (F-3), Camp Fechner (D-Army-1), Camp Lodge (DSP-2), and the camps at Deerfield (F-15) and Sheridan Lakes (F-24). In all, there were twenty-seven CCC camps in the Black Hills between 1933 and 1942. Another three were planned, but not established. A large majority of enrollees were from South Dakota, but in addition to the Wyoming camp near Sundance, the Lightning Creek Camp (F-14), which was also a veteran's camp, and the Oreville Camp (F-16) were manned by North Dakotans, and the Mystic Camp (F-1) by Nebraskans (Schuttler 1984; Alleger n.d.).

Survival of campsites has been poor. Descriptions of many camp locations in literature are vague. Apparently the only Black Hills camp buildings still on original foundations are those at Camp Lodge (DSP-2), which now serve as part of the Black Hills Playhouse, and two log cabins on private land that were once housing for officers and foresters at Camp Custer (F-12) (Cassells 1982). One of the few remnants from the officer quarters of Roubaix Camp (F-6) is a standing chimney west of U.S. Highway 385 near the road to Roubaix Lake. At some other campsites, the only traces of the CCC are a few limited pits and other slight ground disturbances where vital hubs of activity once were in place. Longtime residents or CCC veterans are often the only ones who can relocate the sites.

The most visible remains of the CCC are lakes, dams, forest lookouts, roads and picnic grounds. In monetary terms, the CCC's greatest impact on the Black Hills National Forest may well have been the saw timber being harvested in the 1980's from stands that were dog-hair ponderosa pine in the 1930's, and were thinned by the enrollees to make a healthy growth possible (Schuttler 1984; Alleger n.d.).

OTHER DEPRESSION ERA PROGRAMS

The Works Progress Administration was created by Congress in April of 1935, an undertaking intended to provide jobs quickly for vast numbers of the nation's unemployed. Always controversial (critics claimed that WPA stood for "We're Probably Asleep" or "We Piddle Around"), the WPA's early projects were hastily conceived and often lacked the organization and structure of CCC projects.

Several old mining camps, including Carbonate in Lawrence County, were demolished by the WPA at the request of the Forest Service. During the dry years of the 1930's, these communities were considered to be fire hazards. Some CCC projects such as Sheridan Lake were built with the assistance of the WPA. Later WPA projects covered a wide ranging variety of activities and included such diverse endeavors as the Federal Writers Project program to create guides to all forty-eight states and preserve local history. This program gathered information about early Black Hills mining and logging that might otherwise have been lost (Schell 1972; Lawrence County Historical Society 1981; Sneve 1973).

One other Depression-era development left some lingering impacts on the Forest. As noted above, the U.S. departure from the gold standard exerted significant impacts on the market for gold. Coupled with the desperate search by the unemployed for any form of work, this situation created a latter-day placer gold mining boom in the Hills during the mid-1930's. Homestake Mining Company briefly opened its streams to placer miners, and a number of placer claims were filed on streams running across National Forest lands. By 1937 an estimated 600 persons were working placer claims on a number of Black Hills streams. Shortages of unclaimed stream bottoms, and rising demand for labor as World War II began to influence the region's economy made the placer boom short-lived (Fielder 1970; Kovats 1978).

THE WORLD WAR II YEARS

The era of limited demand for Black Hills timber ended with the onset of World War II. On the eve of the U.S. entry into the War, important changes had occurred in the nature of Forest policies and in the structure of the lumber industry in and around the Black Hills. Aside from rising demand and

improved market conditions, the impact of motor transportation was being felt in all areas of Hills logging. Warren-Lamb Lumber Company, traditionally dependent on rail transportation to move logs to its mill and to market part of its production, found it increasingly difficult to compete. A timber sale proposal prepared by Forest Service staff in the late 1930's attempted to compensate for these competitive disadvantages by special considerations built into sale provisions. The rationale for this policy was based on the view that closing of Warren-Lamb and the resulting loss of hundreds of jobs would have an adverse effect on the Rapid City community. Trucks were hauling logs longer distances to mills on the improved road system, and the process of marketing lumber regionally by truck was expanding on the eve of the War (Newport 1956).

Wartime conditions temporarily modified other trends in the Black Hills. Large construction projects, such as the Rapid City Air Base (later Ellsworth Air Force Base) and the Black Hills Ordnance Depot at Igloo created an expanded local market for wood products. Shortages and rationing of tires and gasoline temporarily displaced some of the growing dependence on truck transportation. Warren-Lamb's potential for rail use was turned from a disadvantage to an advantage. War Production Board Order L-208, issued 8 October 1942, suspended gold mining as nonessential to the U.S. war effort and all mining in the Black Hills had ended by early 1943. Homestake's sawmilling activities, for the first time, were concentrated in the general lumber market. Forest Service sale policies were structured to provide optimum use of transportation and other resources, and tended to strongly favor large firms such as Homestake and Warren-Lamb. At least one major sale went to Homestake without competitive bids, on the Forest Service recommendation that this was the most efficient procedure. These policies created considerable resentment among smaller operators, and charges of favoritism were frequently repeated during the postwar era (Cash 1973; Newport 1956).

Mining activities for strategic minerals, unlike gold, were encouraged by the War Production Board and other federal agencies. Tin deposits in the Black Hills received considerable attention, and there was widespread prospecting in the central and northern Hills. In 1943 the Black Hills Tin Company, based at Tinton, received a federal contract, and extensive development followed until 1945. Tinton grew to a community of fifty families, and supported several stores, a post office, and a four-room school with a gymnasium. The Forest Service was faced with the challenge of formulating policy for a new boom town completely surrounded by Forest land. Peacetime brought renewed access to world tin supplies, and Tinton's population was reduced to only a caretaker by the early 1950's. Tinton joined the ranks of ghost towns from earlier mining booms (Sundstrom 1977; Kovats 1978; Lawrence County Historical Society 1981).

TOURISM

During the years following World War II, the Black Hills finally experienced the full-fledged impact of an economic and social force which had been developing for decades. Nurtured from seeds as diverse as broad changes in American social and economic conditions, and the unique geographical and man-made features of the Black Hills, the full impact of tourism reached the Black Hills during the postwar era. For the three decades following 1945, tourism was a very important economic and social force in the development of the Black Hills.

The origins of tourism in the Hills may be as old as the presence of humans in the region. Prehistoric hunters spent summers in the cool meadows of the higher Black Hills and retreated to the foothills of the south as the snows of winter arrived. To a limited extent, this practice was continued by at least some of the historic tribes. As previously noted Custer's 1874 expedition found one Indian camp in Reynold's Prairie and saw signs of Indian use at a number of other locations.

Richard I. Dodge commented at length in his journal of the 1875 expedition on the scenic beauty of the Hills, and the contrast they provided to the surrounding prairies. Dodge was convinced that this quality would make the Hills attractive to visitors from throughout the region. The challenges of the mining and other frontiers focused attention away from tourism in the 1870's and 1880's, but by the end of the 1880's some of the foundations of what would become the Black Hills tourist industry were being laid (Jackson 1966; Dodge 1876; Progulske 1974).

Early Black Hills tourism struggled against several great obstacles. Simply put, these were the obscurity of the Hills as a region attractive for tourism, and poor transportation access from the rest of the nation. Most promotional efforts considering the Black Hills focused on the mining and other economic opportunities, not on the scenic beauty of the region. Some Nineteenth Century tourists might find travel by stagecoach exciting, but most did not. The arrival of rail transportation in the late 1880's and early 1890's eased some of the access problems, but the Black Hills were always at a relative disadvantage when depending on railroads to generate tourist traffic. The Hills were not near any of the mainline transcontinental rail corridors, and train service was always roundabout and slow (Fielder 1964; Miller 1984).

**Dining
Cars
TO
THE Hills**



The Burlington Route

Is not only the Scenic Line THROUGH the Black Hills—it is the best line TO the Hills. It is the only railroad to Hot Springs and Deadwood which operates dining cars; the only railroad which runs Through Sleeping Cars from Omaha and Lincoln to Deadwood. Its track is smooth and solid; its cars are models of convenience and comfort, and its employes are wonderfully obliging. Best of all—Burlington trains are almost invariably "on time."

In addition to the tourist rates to Hot Springs throughout the year, the Burlington Route runs several

Excursions to the Black Hills

during the summer months. The rates for the excursions are exceedingly low, and the return limit is long enough to suit almost everybody.

The Burlington Route issues three different publications descriptive of the summer resorts of the Black Hills. One called "Hot Springs," another "Sylvan Lake," the third "Little Journeys in the Black Hills." They can be had by addressing the undersigned.

J. FRANCIS, General Passenger Agent, Omaha, Neb.

Fig. 9-82: A railroad promotion circulated at the turn-of-the-Century (Gage 1901).

These conditions created a rather specialized Black Hills tourist trade. The industry, if it could be called that in the late 1890's, served people living in the Hills and on the nearby prairies, and it provided unique services for a different breed of tourist. Examples of early tourist attractions fitting these themes are Sylvan Lake, Hot Springs and Spearfish Canyon.

Sylvan Lake was created as part of an ambitious attempt to bring visitors to Custer. A corporation of Custer businessmen organized in 1891, and hired Theodore and Odo Reder to build a stone dam across a narrow rock formation near the head of Sunday Gulch. The dam was completed, and Custer Lake, soon renamed Sylvan Lake, filled in 1892. An improved road to the lake was built, and accommodations established in a crude log hotel. Early visitors admired the scenery and complained about the quarters. The Reders responded by building a frame sixty-room hotel with a large veranda in 1895. The South Dakota Press Association convention met there soon after its opening, and stories of the beauty of Sylvan Lake and the fine hotel filled newspapers across the state. However, the



Fig. 9-83: The Sylvan Lake Hotel ca. 1895
(Gage 1901).

free publicity was not enough to keep the hotel open. Visitors were too few, the site too isolated and the cost of operation too high. The Reders sold out in 1896, and the Sylvan Lake Hotel faced difficult economic prospects until the nature of Black Hills tourism began to change during the First World War era (Sundstrom 1977; Gage 1901).

Hot Springs was the one unqualified success in pre-1900 Black Hills tourism. Among the several ingredients in this success were the unique asset of the great mineral hot springs, a clientele of wealthy patrons with money and leisure time, and some energetic promoters. In 1886, with railroad transportation furnished by the Elkhorn nearby, the Hot Springs townsite company was reorganized, and attempts to promote the area as a health spa began. The developers, organized as the Dakota Hot Springs Company brought two railroads, the state soldiers home, Black Hills College, and considerable publicity to the community. In 1891, the Evans Hotel, named for townsite promoter Fred Evans, was completed. Billed with some exaggeration as the finest resort hotel west of Newport, the Evans was the best facility in the region. It offered formal dining, luxury accommodations and the sort of atmosphere conducive to attracting a wealthy clientele to the mineral springs. Hot Springs, the Carlsbad of America,

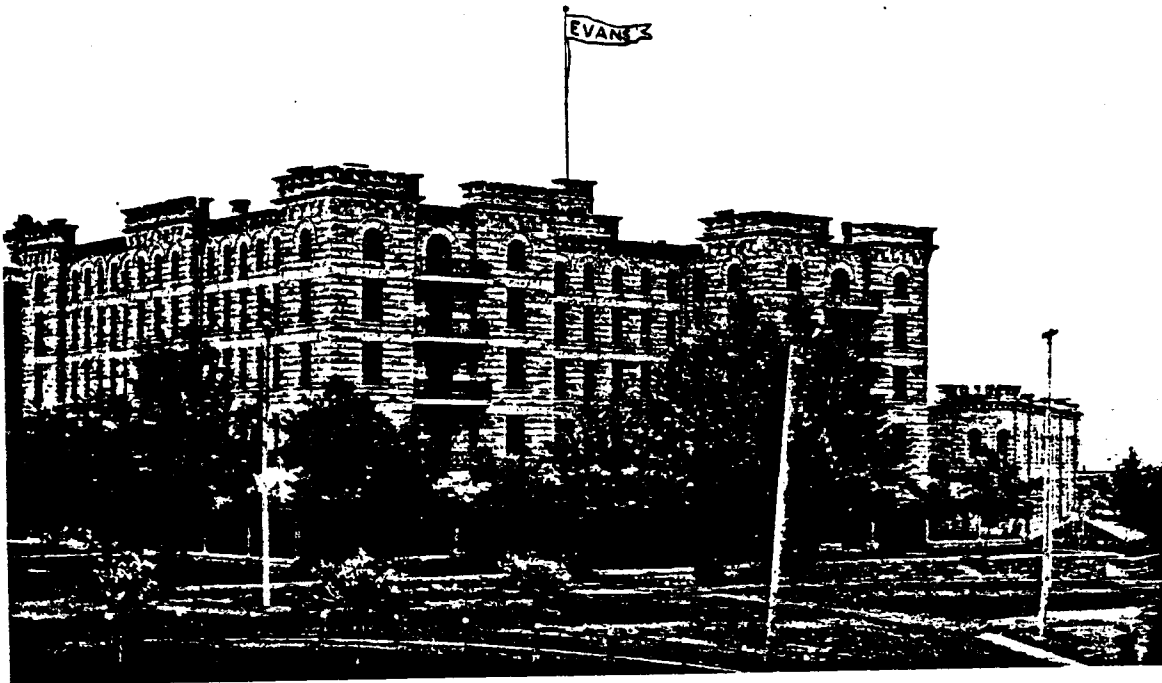


Fig. 9-84: The Evans Hotel at the turn of the century (Gage 1901).



Fig. 9-85: The interior of the Evans Plunge, with a number of swimmers taking advantage of the hot spring water (Gage 1901).

could point with pride at its tourist success in the pre-World War I era (Tallent 1899; Gage 1901; Clark 1927).

Spearfish Canyon, in the northern Hills, represented another variety of early Black Hills tourist attraction. After completion of the Burlington's Spearfish branch in 1893, the canyon was accessible from Elmore to Spearfish. Summer cabins were soon constructed on a few individual landholdings and on land leased from Homestake. Latchstring Inn, built at



Fig. 9-86: Spearfish Falls, an early tourist attraction on the Burlington Line (Gage 1901).

Savoy at the turn of the century, represented a rustic out of the way vacation retreat not likely to attract large numbers of tourists. Difficult to reach and accessible only by rail, Spearfish Canyon offered excellent trout fishing after 1900, and spectacular scenery, such as Spearfish Falls. However, it was largely unknown to travelers from beyond the Black Hills and the immediate surrounding prairie region (Lawrence County Historical Society 1981).

The coming of the automobile and a growing commitment to preserving scenic wonders by state and federal government began to change the Black Hills tourist picture shortly after 1900. Future South Dakota Governor Peter Norbeck's epic journey from Pierre to the Black Hills in 1905 made him the vanguard of millions of tourists who would reach the Black Hills by automobile. The trails Norbeck took in his one-cylinder Cadillac were so bad that he had to be pulled across stream crossings by cowboys mounted on horseback. The trip to Rapid City took several days. But South Dakotans would soon demand better roads and Norbeck would be in a position to respond to their calls. For its part, the federal government seemed increasingly anxious to preserve unique natural areas located on federal lands, and there were a number of these in the Black Hills (Robinson 1925).

Chronologically, Wind Cave was the first unique natural feature to receive federal attention in the Hills. Discovered in 1881 by Edward Petty (some sources say Tom Bingham) who was tending stock in the area, it received its name from winds

WIND CAVE

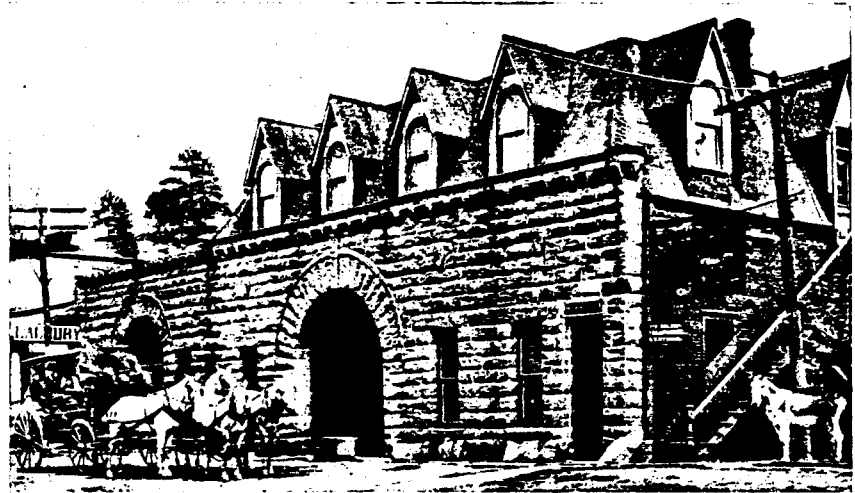
HEADQUARTERS.

OPPOSITE
EVANS HOTEL.



C. L. JENSEN, Manager.

Phone No. 6.



THE CAVE HAS BEEN THROWN

OPEN TO THE PUBLIC

BY THE GOVERNMENT.

Arrangements for Guides, Lights, etc., may be made at the office of the

Jensen Livery and Stage Company.

Daily Coaches are run to the Cave, leaving at 8:30 a. m.

HOT SPRINGS, S. D.

Fig. 9-87: An advertisement of Wind Cave at the turn-of-the-Century (Gage 1901).

at the entrance that were created by differences in barometric pressure inside and outside the cave. Developed as a tourist attraction during the 1890's by A.C. McDonald and members of his family, Wind Cave's close proximity to the tourist trade at Hot Springs brought it some national attention. By the late 1890's, the cave was promoted as one of the great natural wonders of America, and over 100 miles of passages had been explored. Tours were by candlelight, and a number of features had been given names such as the "Bridal Chamber, Capital Hill, and the Bell Chamber". In 1903 the federal government set aside a reserve of 10,522 acres, and the process which would develop the area into a National Park began. In addition to the cave tours, the reservation soon offered attractions of big game in fenced sections. Buffalo from Yellowstone Park, and elk from several areas of the West, were introduced. By World War I, the Park counted 10,000 visitors annually (Sundstrom 1977; Robinson 1925; Tallent 1899).

As federal presence became more important in the Black Hills, interest in preserving some of the unique physical features of the Hills region also developed. No physical

feature of the Black Hills region was more unique than Devil's Tower. Almost every Indian tribe which lived in the region after A.D. 1650 had some legend associated with it. Early Black Hills explorers were fascinated by the formation. Colonel Richard I. Dodge may have been responsible for the present "Devil's Tower" name, and he described it as one of the most unique peaks in the U.S. or the world. During the late 1870's and 1880's, most of the region around the Tower was the range of large cattle outfits, such as the 101. As railroads built into northeastern Wyoming in 1890, interest was created in developing the Tower for speculative purposes. At the same time, the General Land Office recognized the unique value of the area, and issued an order cancelling all applications, including a preemption application filed by Charles Graham for the Tower and surrounding lands. The Tower was protected until its fate could be decided.

As early as 1892, Wyoming Seantor Francis E. Warren contacted the General Land Office in Washington to ask about the possibility of having Devil's Tower designated a National Park. Warren's inquiries brought no immediate results. Occasional discussions of making the Tower a federal reserve continued for fourteen years until a proclamation issued by President Theodore Roosevelt 24 September 1906 made Devil's Tower the first National Monument. Sources disagree on the question of whether Roosevelt ever visited the Tower. Newspaper accounts of his travels through the region while he was the President contain no mention of visits to Devil's Tower. Given Roosevelt's long association with the Black Hills area, however, it is very likely that he had seen Devil's Tower before designating it a National Monument.

Devil's Tower shared a problem common to many potential tourist attractions in the Hills. In the years before good roads and widespread automobile travel, it was difficult for tourists to reach. Most visitors were local people, and the Tower became a favorite location for picnics and local celebrations. The largest early gathering, estimated to have attracted between 1,000 and 3,000 persons, took place on 4 July 1893. They watched local homesteaders William Rogers and Willard Ripley climb the Tower on a wooden peg ladder. The ladder was constructed of oak and ash pegs driven into a crack on the south side of the Tower. The climb was a success and a large American flag was planted on the summit. The ladder was used until 1927, when it deteriorated to the point that further climbing had to be banned. Isolated, and provided with no regular public transportation for tourists, Devil's Tower shared problems common to a number of other potential Black Hills tourist attractions during the early years(Crook County Historical Society 1979).

In many respects, the early development of Jewel Cave National Monument was similar to that of Devil's Tower. Discovered by Felix Michaud and his sons in the late 1890's, the cave was first located as a mining claim. Since the cave was located inside the Black Hills Forest Reserve, this was the only way the Michauds could develop it. Mining of crystals from what they called the "Jewel Lode" created local protests that the natural beauty of the cave was being destroyed. In 1908, the cave was declared a National Monument, but the federal government made no efforts to improve it. Michaud continued to guide cave tours, but the site was so inaccessible that virtually nothing was done to develop it until the late 1920's (Sundstrom 1977).

The creation of Custer State Park represented another potential Black Hills tourist attraction which took a long time to develop. The Enabling Act of 1889 which admitted South Dakota to the Union also granted sections 16 and 36 in each Congressional township to the state for the support of education. When the Black Hills and Harney Forest Reserves were created, 96 sections of these "school lands" were inside the borders of the Reserves. Problems of managing these parcels within the Forests, and the potential for conflicts in jurisdiction between state and federal officers made this situation undesirable. In 1907 South Dakota Commissioner of School and Public Lands, O.C. Dokken, began negotiations with Forest Bureau personnel for an exchange of school sections inside the Forest Reserves for a solid block of federal land which the state could manage as one unit. Negotiations were completed by the new Commissioner of School and Public Lands, F.F. Brinker, in 1911, and the exchange became official with the filing of the state's title on 10 May 1912. The land received by the state in exchange for scattered school sections was 61,440 acres located in Townships 3 and 4 S of Range 6 E and Townships 3 and 4 S of Range 5 E. At the time of its completion, the land exchange was one of the largest and most unusual in Forest Service history.

State acquisition of the tract of Forest lands (at the time they were referred to as the "lieu lands") immediately raised the question of what use should be made of them. During land exchange negotiations federal officials had suggested the possibility of establishing a game refuge on the tract. Some South Dakota legislators favored this idea. In 1912, State Senator Peter Norbeck of Redfield recommended that the state game fund be used to develop a game refuge on the new state lands. At the 1913 legislative session, Senator John F. Parks of Hot Springs introduced a bill creating a state game preserve on the exchange lands. The bill, S. 338, unanimously passed the Senate. Opposition was encountered in the House, and the bill failed to receive the two-thirds necessary for measures requiring appropriations. West River legislators A.G. Granger of Kadoka and Chester Leedom of Cottonwood saved the bill by engineering a compromise. A

temperance measure was also stalled in the House because West River "wets" opposed strict liquor regulation in South Dakota. West River votes were traded to East River temperance supporters, and both measures then passed.

This 1913 measure set aside the 61,440 acres as a game preserve, and appropriated \$15,000 from the game fund to fence and stock the area with buffalo, elk and other big game. In 1913 Norbeck estimated that the area contained only fifteen to fifty deer. Given the excellent combination forest and meadowland in the refuge, he believed that it could support 4,000 deer, 1,000 buffalo, 1,000 elk, 500 antelope and 150 mountain goats. Norbeck personally supervised building the 48 miles of fence around the refuge. The project was completed in 1914. Stocking of game animals began immediately, with cost of projects paid from the game fund raised by the sale of hunting licenses. These early efforts were opposed by many South Dakotans because of the expense involved. Ranchers who resented the loss of some of their traditional range frequently cut fences in the early years of the refuge.

Norbeck's election to the South Dakota governorship in 1916 marked the beginning of a new era in the history of the refuge. Efforts to broaden political support for the refuge included measures such as one allowing Elks Lodges throughout the state to take a bull elk from the refuge herd for display purposes. Governor Norbeck continued to be concerned about the status of land in the refuge. Since the refuge land was still school land, it was subject to sale. In a special message to the 1919 legislature, Norbeck recommended state purchase of the school land in the refuge and the creation of a state park board to supervise the development. Legislation was drafted to implement Norbeck's proposal, \$200,000 was appropriated, and the land purchases began.

Norbeck was also concerned that what he considered to be the most beautiful parts of the Black Hills — Sylvan Lake, the Needles and the Harney Peak area — were not included in the state park boundaries. In 1920, Congressman Harry Gandy of Rapid City introduced a bill conceived by Norbeck that added 30,000 acres of additional Forest land to the game preserve. The state game preserve had been named Custer State Park, and the federal lands became Custer State Park Game Sanctuary. Lands in the sanctuary remained under federal ownership, and the federal government continued to supervise timber management and provide for patrols. The Custer State Park board had custody of all buildings, and other facilities in the area, and supervised all other activities including wildlife management. The addition brought more spectacular landscape into the park and made it one of the largest state parks in the nation. The curious blend of state and federal control made Forest lands in Custer State Park unique in the Black Hills.

Although pleased with his accomplishments, Norbeck remained concerned about the park's inaccessability to the public. Assisted by South Dakota State Engineer Scovel Johnson, and C.C. Gideon, Norbeck trudged through the park, laying out a road past the Needles. The objective was to design a highway which would allow visitors to see the natural beauty of the park, while disturbing as little of it as possible. Frequently at odds with other engineers involved in the work, Johnson used sometimes unorthodox engineering practices to complete the road. The Needles Highway was opened in 1922, and it rapidly became a favorite attraction for Black Hills visitors (Robinson 1925; Fite 1948).

Development of Custer State Park and access to the Needles gave rise to another idea which would trigger a chain of events having vast consequences for the Black Hills. Peter Norbeck and a number of other South Dakotans and Wyomingites familiar with the Black Hills sensed that the potential for tourism was changing in the region. Prosperity in urban America and increasing use of highways and the automobile by vacationers created a potential for developing tourism into a major industry for the Black Hills. But there were plenty of other places with mountains and pine trees in the American West. The Black Hills needed something unique to offer visitors, and a way to reach the outside world with the message that the Hills were a place worth seeing. The Mount Rushmore project and President Calvin Coolidge's visit to the Black Hills changed all of this. Although Rapid City would be the biggest winner, many Hills towns would benefit from the changes that followed.

Mount Rushmore began with a dream. South Dakota state historian Doane Robinson conceived of a memorial to the American pioneer spirit — a sculpture carved for all time in the granite rocks of the Black Hills. Robinson's first idea was a simple figure of a frontiersman. When Robinson invited sculptor Lorado Taft to come to the Black Hills in December of 1923, he suggested the figure of an Indian leader. Taft was too ill to come, but Peter Norbeck, who had moved on to represent South Dakota in the U.S. Senate, received a copy of the letter and was intrigued by the idea. Norbeck and Robinson sought another sculptor. It was known that Gutzon Borglum, working on a Confederate memorial at Stone Mountain, Georgia, was at odds with sponsors of the project. Borglum was invited to the Hills in the fall of 1925.

Borglum was impressed by what he saw and promised to return the next fall. A number of ideas of themes and locations were considered, among them a proposal to carve Washington and Lincoln in the Needles. South Dakotans who wanted the Needles left alone were outraged, and Norbeck and others urged Borglum to drop the idea. In 1926, Borglum had a complete falling out with sponsors of the Stone Mountain project. A lesser known granite peak near Keystone named for New York businessman Charles E. Rushmore, was chosen as the sculpture site. The sculpture would honor four American Presidents —

Washington, Jefferson, Lincoln and Theodore Roosevelt. The support of Black Hills residents was enlisted. Homestake Mining Company contributed \$5,000, and small donations came from other sources. By early 1927, the Mount Rushmore Memorial Association had raised \$55,000. This could finance a beginning, but the project had no chance of success without national publicity and much greater financial resources (Fite 1952).

President Calvin Coolidge's visit to the Black Hills in the summer of 1927 provided vital support for the Mount Rushmore project, bringing a bonanza of publicity to benefit Black Hills tourism. Political controversy in farm states sparked by Coolidge's veto of the McNary-Hougen farm relief bill in the spring of 1927 provided the catalyst that Black Hills promoters needed to lure the President to the Hills. Coolidge was offered the use of the game lodge in Custer State Park in return for a promise to dedicate Mount Rushmore. His travels in the Black Hills region would allow him to claim that he had come to the Midwest to gain firsthand impressions of farmers' problems. Custer and Rapid City engaged in spirited competition to become headquarters for the President's visit. Rapid City won, but it was understood that the President would stay in the Hills for several months and visit virtually all the communities in the area. Late May and early June 1927 were frantic times of cleaning, fixing and painting Rapid City and other towns in the Hills. There was a crash program to improve Hills roads. Railroads and hotels reported a sharp increase in visitor interest.

On 15 June 1927, promptly at 5:30 p.m., a carefully polished special train brought the Presidential party to Rapid City. From the beginning, fortune seemed to smile on the visit. Eastern reporters filed dispatches that vividly depicted Hills beauty. The President caught five nice rainbow trout on his first fishing trip. Newspapers across South Dakota and Wyoming seemed anxious to claim the Black Hills as their own. President Coolidge made the rounds of Black Hills celebrations. He visited the "Days of '76" celebration in Deadwood, the Tri-State Round-up in Belle Fourche, and a number of other events. For Rapid City, there was the constant stream of visitors to and from the game lodge, and the three times weekly Presidential trips to the executive offices at the high school in Rapid City. For three months the bureaucrats who managed the most powerful executive office on earth were Rapid Citians. But for the future of Black Hills tourism, the most important event of the summer of 1927 was the Mount Rushmore dedication.

On 10 August 1927, the President, Borglum, Norbeck and a crowd of dignitaries and plains folks climbed the rough trail to the base of Mount Rushmore. The President's dedication address was all that anxious supporters of the project hoped that it would be. Coolidge praised the project and declared that the memorial deserved the support of private

citizens and the national government. He presented the first drill bits to Borglum, and the carving of the shrine to democracy began. In the difficult Depression years ahead, the President's remark about the national government would assume much greater significance. It would provide the key to the monument's completion. Coolidge's remarks at Mount Rushmore were carefully monitored by the national press, since he had just shocked the nation with his Rapid City remark of 2 August that he did not choose to run for reelection in 1928. Prominent Republican politicians converged on the Black Hills, but President Coolidge left the region in early September with the secret of his true intentions intact (Miller 1972, 1984).

In the brief interval between Coolidge's visit and the shock of the Depression, the Black Hills moved to take advantage of tourism's rising potential. Attention focused on the Black Hills spurred efforts to develop attractions whose potential had long been recognized. In late 1927, the Newcastle Lions Club, under contract from the National Park Service, formed a corporation to promote Jewel Cave as a commercial venture.

Future South Dakota Governor Leslie Jenson built Blue Bell Lodge on a leased tract inside Custer State Park the same year. The number of tourist camps intended to serve motor tourists doubled in the Black Hills during the period from 1927 to 1929. Construction in 1928 of the Hotel Alex Johnson in Rapid City represented a serious investment in the Black Hills tourist future. Named for a CNW Railroad vice-president, the Alex Johnson's ten stories contained more space than possibly could be required by local Black Hills demand. A new generation of guides to the Black Hills, such as P.D. Peterson's Through the Black Hills and Bad Lands of South Dakota (1929) appeared to meet the needs of motorists. The Black Hills seemed poised to receive an invasion of tourists and to develop a major new industry (Peterson 1929; Miller 1984).

Always seeming to imminent, the invasion did not come for almost two more decades. The American tourist would endure the Depression, World War II and a brief postwar shortage of automobiles before descending en masse on the Hills. During the interim, events conspired to make the Black Hills even more attractive to many visitors. Work on Mount Rushmore continued. When difficult economic conditions dried up private sources of funding, the federal government assumed responsibility for the project. One by one, the faces of the four Presidents were completed and dedicated. Usually dedications coincided with Presidential visits to the Black Hills, bringing with them much national publicity. Borglum lived to complete the final face, that of Theodore Roosevelt, in 1939. In 1941, looking forward to completing work on the faces, and beginning the next phase of the project, the Great Hall of Records, Borglum



Fig. 9-88: Gutzon Borglum measuring the face of Mount Rushmore in the early stages of the Mount Rushmore project (courtesy South Dakota School of Mines and Technology, Devereaux Library).

died. Some additional work was supervised by his son, Lincoln Borglum, but the project was lost amid the demands of World

War II. It was never resumed. During the difficult Depression years, the Mount Rushmore project provided a needed diversion for Hills residents, jobs for some of the unemployed, and priceless publicity for the tourist era to come (Fite 1952).



Fig. 9-89: The completed faces at Mount Rushmore.

THE STRATOSPHERE BOWL

Another unique aspect of the Black Hills Depression-era experience was the role of the Stratosphere Bowl in America's first step into space. The Stratobowl episode would result in an altitude record that would stand until after World War II. In 1933 the Army Air Corps and the National Geographic Society undertook plans for a balloon ascent into the stratosphere. A site selection committee concluded that an acceptable site would need to be far enough west so that the balloon could drift 800 miles east and still land in level, open country. Also necessary were good summer flying weather and a protected launch site. The Rapid City Chamber of Commerce invited the committee to Rapid City, but the committee was unimpressed with the offer of the Halley Airport. The Pennington County Commissioners had considered other sites. When the committee was shown what became the Stratosphere Bowl, a deep "hole" cut out of the west side of the eastern Limestone Plateau by water action of Spring Creek just west of Rapid City, they agreed that it was the ideal site.

There were two stratosphere flights. The 27 July 1934 flight almost ended in tragedy when Explorer I, having reached the unprecedented altitude of 60,000 feet, split, exploded and crashed in a field near Holdrege, Nebraska. It was agreed to try another flight in 1935. Explorer II was scheduled to fly in the summer of 1935, but delays prevented the flight until 11 November 1935. Captains Albert Stevens and Orvil Anderson, wearing helmets borrowed from Rapid City High School's football

team, lifted out of the Stratobowl in the pre-dawn light. Thousands of spectators around the rim were sprayed with lead shot as Stevens and Anderson released ballast to free the balloon to rise into space. Four hours later Explorer II reached an altitude of 72,359 feet, 13.7 miles into space. The record set at that time would last for over a decade. Several hours later the flight ended in a field near White Lake, South Dakota, 230 miles from where it had begun. Not until the flight of Apollo 8 in the space program of the 1960's would as much new data be gathered by a single manned space flight. The Stratosphere Bowl, located on private land, can be viewed from the U.S. Forest Service's overlook (Miller 1984).

While the developments at Mount Rushmore and the Stratosphere Bowl attracted some visitors to the Black Hills, the Depression made it impossible for the middle income tourists travelling by automobile (destined to eventually become the most important element of the Black Hills trade) to arrive in great numbers. Railroad/bus tours operating out of Newcastle and Custer on the Burlington and from Rapid City on the CNW and using the Alex Johnson as headquarters, drew some tourist trade. The arrival of the Black Hills Passion Play to Spearfish in 1938, a relocation of the medieval German Luenen Passion Play, marked the beginning of a new trend in Black Hills tourist attractions. Director Josef Meier chose Spearfish because of the community support he received and the potential that the Black Hills appeared to offer for attracting visitors. The coming of the Passion Play inaugurated the process of establishing attractions which could choose other locations, but came to the Hills for the tourist potential there. In the years after World War II, this trend would become an important element of the Black Hills economy (Lee 1976; Miller 1984).

POST-WORLD WAR II RENEWED MINING

Many of the historic themes outlined above converged in the Black Hills during the post-World War II era. When peacetime brought the return of gold mining, Homestake continued its historic domination of the industry. Using the same policy of integration and careful management which had brought success in the past, Homestake was the only operating gold mining complex in the Black Hills after the close of the Bald Mountain Mine near Trojan in the mid-1950's.

America's entry into the nuclear age brought a brief flurry of uranium prospecting in the southern Hills and the Bear Lodge Mountains in the late 1940's and early 1950's. A number of prospect pits were constructed and roads built, but serious efforts to mine were short-lived. A uranium mill operated briefly in Edgemont in the early 1950's. Uranium deposits in the Black Hills region were not competitive with those available elsewhere.

Extensive bentonite developments occurred in the late 1940's and 1950's, but these were located north and west of the Black Hills. Bentonite development's chief impact on the Black Hills National Forest was its ability to generate rail traffic sufficient to allow the CNW to offer better rail service to the lumber industry than would otherwise have been possible. Mica, quartz and feldspar development, begun during the Depression era, continued in the Hill City and Custer regions (Fielder 1970; Bronson and Watkins 1977; Firestone 1981; Sundstrom 1977; Kovats 1977).

POST-WORLD WAR II FOREST POLICY AND TOURISM

The Sustained Yield Act of 1944 signalled what appeared to be a change in Forest policy. Timber sales were to be structured so that balance would be achieved between allowable cut and production within the National Forests. Plans formulated within the Black Hills National Forest faced a complex set of circumstances. The Spearfish area, dominated by Homestake, usually did not cut enough timber to equal the annual production. The Sturgis-Rapid City area, historically dominated by Warren-Lamb, experienced dramatic changes as new sawmills, hauling logs, and marketing by truck entered the field. In the case of Buckingham Trucking Company, the lumber business was created to provide a backhaul for trucks bringing merchandise to the Black Hills from the east. In the southern Hills, the Forest Service attempted to structure contracts so that the sharp competition among a half dozen mills in Custer, Hill City and Pringle could be maintained without denying any firm necessary wood supplies. On the Wyoming side of the Hills, the prewar pattern of small mills continued. Predictions of a depression in the wood industry proved totally unfounded as the previously deferred consumer demand for housing rebounded with postwar prosperity, creating a brisk call for lumber and other wood products. Continued improvements in the highway and communications systems in the Black Hills made centralized management of the Forest more possible.

The final step in the unification of the Black Hills National Forest, a lengthy process which had begun with the annexation of Sundance National Forest (Bear Lodge National Forest) by Executive Order 2161 on 6 April 1914, was the combination of Harney and Black Hills National Forests. This process was finally completed when all the lands in the Harney National Forest were transferred to the Black Hills National Forest by Public Land Order 1016 on 4 October 1954. The new Black Hills National Forest enclosed 1,528,192 acres in Crook and Weston Counties in Wyoming, and Lawrence, Meade, Pennington, Custer and Fall River Counties in South Dakota. The Forest Headquarters were located at Custer. A total of 1,224,604 acres of the land within the Forest boundaries was actually held by the Forest Service. Creation of the Division

of Forestry within the South Dakota Department of Game, Fish and Parks in 1945 marked the beginning of timber management programs inside Custer State Park. Increasingly, during the postwar era, the forests of the Black Hills were subjected to scientific management policies and provided timber for a lumber industry serving regional rather than local markets (Newport 1956).

The long delayed Black Hills tourist bonanza began during the late 1940's. Gasoline and automobiles were available. The nation's economy was sound and Americans had increased leisure time for travel. Paved highways had reached the Black Hills from several directions. The Chicago and Northwestern inaugurated its "Black Hills 400" in an attempt to induce the growing number of Hills visitors to use the railroad, but unattractive schedules and slow train speeds made rail travel to the Hills unappealing. Air and bus service was limited and not tailored to the needs of the tourist trade. Black Hills tourism grew into its golden age as an automobile based trade. Opening of new Forest roads and lakes, such as Deerfield and Pactola could be reached only by private transportation. Gray Line of the Black Hills, based in Rapid City, provided some tour bus service, but not to most of the growing number of Black Hills tourist attractions. Perhaps the most unusual element of postwar Black Hills tourism was the growing number of tourist attractions locating in the area when they could have chosen locations in any number of other regions. Numerous motels and tourist attractions along the road from Rapid City to Mount Rushmore quadrupled in the two decades following World War II. Mount Rushmore was the centerpiece of Black Hills tourism, but there were dozens of other attractions. Passage of the Sustained Yield and Multiple Use Act of 1960 allowed the Black Hills National Forest to focus policies increasingly on the recreational needs of the region's tourist industry, especially along well travelled tourist highway corridors (Miller 1984).

Changes of the postwar era impacted some Hills communities more than others. Homestake's continued prosperity left the economy of Lead largely unchanged. Located away from developing tourist routes, the tourist trade of Hot Springs languished. Hospitals and a retirement community provided the key to its survival. Recently, the initiation of an interpretive center at the Hot Springs Mammoth Site has given signs of attracting new sightseers to the town. Deadwood and Keystone became increasingly dependent on the tourist trade. The southern Hills communities of Custer and Hill City depended on a mix of tourism, lumber and mining, with Custer benefitting from its location as Black Hills National Forest Headquarters. Newcastle became an oil boom town in the 1950's. Spearfish,

Sturgis and Belle Fourche continued to serve trade that was partly agricultural, partly lumbering and mining, and partly service oriented. Continued growth of the Black Hills Passion Play and Black Hills State College caused Spearfish to experience the most rapid growth, especially after 1960. Sundance experienced its own boom with the creation of a large Air Force radar facility on Warren Peak in the 1950's. Rapid City was unquestionably the Black Hills community experiencing the most dramatic change. The establishment of a Strategic Air Command base at the old wartime bomber base (the facility was named Ellsworth Air Base in 1953) brought a permanent military population of thousands to Rapid City. As the gateway to the Black Hills for much of the tourist trade, Rapid City experienced much growth. Relocation of hundreds of homes and businesses following the flood disaster of 9 June 1972, construction of shopping centers at the edge of the city, and tripling of the city's population in forty years, caused vast change in the community.

Although the addition of tourism economic component brought changes to the post-World War II Black Hills community network, along with agriculture, mining and forestry, in actuality the essence of the region remained remarkably unchanged. Isolated from the American social and economic mainstream, and plagued by continuing transportation and communications problems, the Black Hills remained a region dominated by national and international social, political and economic forces that the Hills population could do little to influence. The fragile beauty and uniqueness (enhanced by Mount Rushmore and more recently Korczak Ziolkowski's massive undertaking of sculpting Crazy Horse Mountain) were intensified as work of the human hand added to that of nature. World-wide publicity given to the Indian claim to the Black Hills reaffirmed the region's ties to a mystic past. Tourist attractions, authentic and otherwise, call constant attention to the number and variety of historic themes reflected in the Black Hills past. As the region's largest landholder, the Black Hills National Forest faces the continuing challenge of preserving and interpreting the Black Hills experience — an experience perhaps as unique as any in the history of the American West.

HISTORY OF THE BLACK HILLS NATIONAL FOREST
(Courtesy Black Hills National Forest)

- 1897 On February 22, President Grover Cleveland signed a Proclamation creating the Black Hills Forest Reserve (967,680 acres), under the General Land Office in the Department of Interior.
- 1898 A 244,000 acre section of Wyoming was added to the Black Hills Forest Reserve.
- 1903 On January 9, 1,920 acres of the Black Hills Forest Reserve were deleted to create Wind Cave National Park.
- 1905 Forest Reserves were transferred from the Department of Interior to the Department of Agriculture on February 1.
- 1906 September 24, Devil's Tower National Monument was created out of Black Hills Forest Reserve.
- 1907 A Proclamation established the Bearlodge Forest Reserve in Wyoming on March 1.
- 1908 Sundance National Forest (183,224 acres) was created from the entire Bearlodge Forest Reserve and part of the Black Hills National Forest under E.O.s 850 and 851.
- February 7, Jewel Cave National Monument was created out of the Black Hills National Forest.
- 1909 Land was added to the Black Hills National Forest both in Wyoming and South Dakota under Proc. 844.
- 1910 Lands were eliminated from the Sundance National Forest on December '16.
- On May 16, the Harney National Forest was established under Proc. 1124 created from lands of the Black Hills National Forest.
- 1911 Lands of the Harney National Forest were eliminated by E.O. 1523 on April 29.
- 1914 On April 6, the Sundance National Forest merged with the Black Hills National Forest by E.O. 2161.
- 1917 E.O. 2764 eliminated lands from the Harney National Forest on November 26.

- 1921 Land was eliminated April 29 from the Harney National Forest under E.O. 3444.
- 1923 E.O. 3777 and E.O. 3916 eliminated land on the Harney National Forest.
- 1924 Land was added to the Harney National Forest by Proclamation 1718 on November 18.
- 1925 Fort Meade Wood and Timber Reservation was added to the Black Hills National Forest, June 5, by E.O. 4244.
- 1928 Land was eliminated from the Harney National Forest by E.O. 4866 and Public Law 373.
- 1929 Proc. 1878 added land to the Harney National Forest.
- 1930 Land was added to the Black Hills National Forest, Proc. 1913 and also to the Harney National Forest, Proc. 1913 and 1914.
- 1931 Lands were added to the Harney National Forest by Public Law 843 and other lands eliminated by Proc. 1951.
- 1932 E.O. 5938 added land to the Harney National Forest October 24.
- 1933 Land was added to the Harney National Forest May 2, E.O. 6117.
- 1934 Elimination of lands March 14, E.O. 6645 on the Harney National Forest.
- Black Hills National Forest added land on August 4, E.O. 6809.
- More land was eliminated on the Harney National Forest on December 18, E.O. 6923.
- 1937 July 12, land from Hot Springs was added to the Harney National Forest (115,000 acres) under Proc. 2244.
- 1938 Bearlodge District, Black Hills National Forest, was enlarged by 93,055 acres.
- Public Law 629 eliminated land on the Harney National Forest, June 15.
- 1939 E.O. 8240, September 6 amended E.O. 4244 dated June 5, 1925 concerning the Black Hills National Forest.
- 1940 Public Law 629, June 15, 1938 was corrected by Public Law 519, of May 22.

- 1946 Land was added and eliminated August 9, Public Law 708, Harney National Forest.
- 1947 Black Hills National Forest received added land March 14, P.L.O. 360.
- 1949 October 6, Harney National Forest received added land granted by Public Law 326.
- 1954 Harney National Forest transferred entire lands to the Black Hills National Forest on October 4, under P.L.O. 1016.
- 1959 Land was added to the Black Hills National Forest February 19, P.L.O. 1798.

Present acreage of the Black Hills National Forest:

1,528,192 gross acres
1,224,604 net acres

Abbreviations Used

Proc. - Proclamation
E.O. - Executive Order
Public - Public Law
P.L.O. - Public Land Order

References are: ESTABLISHED AND MODIFICATION OF NATIONAL FOREST
BOUNDARIES

ANNALS OF THE BLACK HILLS - CHRONOLOGY

10 Historic Data from the Forest

INTRODUCTION

As the discussion in Chapter 9 has indicated, the Black Hills National Forest is unique historically in many respects when compared to most other National Forests in the American West. No other Forest can claim lands which encompass themes as diverse as those in the Hills. Mining, ranching, homesteading, railroading, stagecoaching and wagon freighting, Indian-Anglo conflict, capitalist enterprise, tourism, class and ethnic conflict, and other themes are represented within the Black Hills experience.

What follows is a discussion, by theme, of representative historic sites known to be on Black Hills National Forest property.

BLACK HILLS EXPLORATION

Given the limited direct impact of the fur trade on the Black Hills and the relatively small amount of historical source material regarding that industry in the Hills prior to the early 1840's, this does not appear to be a significant theme in the historical development of the region.

Federal exploration of the Black Hills could be considered within two separate categories. While they were very important to the overall historical development of the region, the Warren 1857, Raynolds 1859 and the Powder River campaigns of 1865 had little direct impact on the Black Hills National Forest.

The 1874 Custer and 1875 Newton-Jenney and Crook expeditions were the first thorough explorations of the Black Hills, and their impact was extremely significant. Source material is adequate to document virtually all routes and campsites used within the Forest by all these expeditions. One example of the influence of these early expeditions on current Forest policy. Changes in the use of fire as a management tool have resulted from the analysis of photographs and historical data from the Custer expedition. Of course, early explorers were also responsible for alerting the outside world to the riches of the Black Hills, bringing about the major influx of would-be prospectors and settlers during the late 1800's.

INDIAN-ANGLO CONFLICT

The Black Hills were a focal point for antagonisms and overt conflict between Indians and non-Indians across the Northern Plains. There can be no understanding of the history of the Black Hills during the late Nineteenth Century without

consideration of this theme. The continuing controversy over the Indian claim to the Black Hills carries a variation on this theme to the present day. It is, however, impossible to associate this issue with a single site within the Black Hills National Forest. The issue is the entire Black Hills region, as was the case during the wars of the late Nineteenth Century. No major engagement between Indians and Whites occurred within the Hills. Most minor incidents were also confined to the foothills and prairies outside the Black Hills National Forest.

TRANSPORTATION AND COMMUNICATION

There are a number of routes and sites associated with the early transportation frontier in the Black Hills, with some crossing National Forest land. Stagecoach and wagon freighting transportation were as important to the development of the Black Hills for almost two decades as similar transportation was anywhere in the mining West.

Some sites identified with this theme have been identified. The Kiddville stage station on the Cheyenne-Deadwood route is still standing, and is located just outside Forest boundaries alongside the Bear Mountain Timber Sale area (Cassells 1982d). However, there has been no concerted effort to identify and mark stage and wagon routes or stage stops and road ranches where these fall within the boundaries of the Black Hills National Forest.

Continued demand for Mildred Fielder's Railroads of the Black Hills demonstrates an undying interest in the history of regional railroading. The 1983 abandonment of the Burlington Northern's line from Custer to Deadwood left very little operating railroad remaining inside the Black Hills National Forest. This remnant was a small portion of what was once a narrow and standard gauged system of hundreds of miles. At its peak, the system included logging and mining spurs and common carriers. Railroads created towns and then later destroyed them when tracks were removed.

Examples of early rail lines within the Forest include grades and washed-out trestles along Spring Creek downstream from Sheridan Dam. These were located during the Baker Park Timber Sale survey (Cassells 1980c), and are the remnants of early Warren-Lamb Lumber Company activities in the area ca. 1920. Another example of Warren-Lamb railroading was located within the Yellow Thunder Camp 800 acres (Cassells 1982d), and consisted of numerous grades, a camp, and a rather spectacular dry-laid masonry palasades clinging to the wall of schist far above the floor of Victoria Creek. Graffiti on the schist wall indicated a construction or operating date of 1914.



Fig. 10-1: A dry-laid masonry "palisades" was constructed along this sheer cliff above Victoria Creek to enable narrow gauge rails to be laid by the Warren-Lamb Lumber Company ca. 1914. This allowed the company to gain entrance to otherwise unexploitable timber (from Cassells 1982c).

An example of a common carrier route along Forest land is the Edgemont to Deadwood route, the longest of the lines within the Hills. It passes along the western edge of the Laughing Water Timber Sale project area (Cassells 1981i). It began as the Grand Island and Wyoming Central in 1889-90, then became the Burlington and Missouri River, then the Burlington and Missouri, then the Chicago, Burlington and Quincy, and finally the Burlington Northern, which closed in 1983.

MINING

This theme is as important as any in Black Hills history. Since operating mines are under private control, the interpretive resources available within the Forest are historic.

By their very nature, placer mining operations are difficult to preserve. They are almost always short-lived and they exist in stream bottoms subject to frequent flooding. A vast majority of the Black Hills stream bottom acreage bordering running streams is under private ownership, thus limiting the number of placer sites possible within the Black Hills National Forest. One relatively recent placer near Rockerville (39PN395), was located during a survey for the Coon Hollow Timber Sale (Cassells 1980a). It dates from ca. 1947, and included a small cabin ruin, a stabilized spring and a riffle box. A small gold mill along French Creek, (39CU598), identified during the Bear Mountain Timber Sale survey, was adjacent to two large linear piles of soil which bordered the creek. It is possible that these piles are remnants of placer mining there (Cassells 1982d). The mill dates from the 1920's, but the possible placer operation is not necessarily associated with the mill operators, as placer gold is not milled. Another site, 39PN215, the Saxon Placer, was identified during a survey for a Northwestern Bell cable route (West 1976). The placer claim had been filed in 1899. Remains included a building foundation with collapsed lumber and a mining cut filled with cans.

Hydraulic mining was very significant in many areas of the West, but shortages of both water and large gold-bearing gravel beds in the Black Hills made it of little consequence here. The town of Mystic, part of which is within National Forest holdings, is one of the areas where hydraulic mining has left its mark, principally in some gravel piles along Castle Creek there. Mystic, originally named Sitting Bull, was established around 1876, with the name change taking place ca. 1889 (Parker 1964; Tallent 1899). The discovery of placer gold there was the start of its life, and the mining would continue sporadically for several more decades

The main Mystic mining boom was in 1904 when an experimental gold mill was set up there at a cost of about one million dollars (Parker 1964). Built by the Electro-Chemical Reduction Company to extract gold by an advanced chlorination process, the plant was a failure. The mill foundations were later the site of the Frink sawmill in the 1950's.

Mystic became a railroad junction with the completion of the Rapid Canyon Line in 1906. It continued to serve this function until 1947, when the Rapid Canyon Line was abandoned. Then when the Burlington Northern ceased its Custer to Deadwood run, Mystic was left without rails. Regardless of the number of mining ventures in the vicinity, the railroad was the vital link to its economic health.

There were a number of placer mining and hydraulic mining operations along Castle Creek in the vicinity of Mystic. These include the Castle Creek Placer, where six men were operating a dragline ca. 1935 to extract gold from bar and creek deposits. The Mystic Placer, employing one man, worked 60 acres along the creek. Shallow shafts and short drifts were used to reach the ore body in bar deposits. The Nugget and Gold Placer, three miles southwest of Mystic, was claimed to work bar placer deposits, but was short-lived (assessment work only). The Rock Ledge Placer, one mile south of Mystic, was developed by drifts and small open cuts. Two men worked there doing assessment work. The Sunshine Placer was $\frac{1}{4}$ mile south of Mystic, and several short tunnels were used there. Two men were employed at this mine. The Susan Irene Placer was on the outskirts of Mystic, and worked bar and creek placer deposits through open cuts and shafts. The Wilma Marie Placer, $\frac{1}{2}$ mile east of Mystic, was developed by tunnels, pits and open cuts. The production in 1933, using six men, was \$3,000.00 (Lincoln 1937).

All of the above claims caused disturbance along Castle Creek. The actual establishment of the history of particular tailings piles there with any degree of accuracy would be quite difficult. Undoubtedly some, though not all, were due to hydraulic mining efforts.

As a sidelight to Mystic's heritage, the town was the summer home of Nebraska's Governor Samuel McKelvie during the 1920's. His stationery had a pine tree logo with the name Mystic, S.D. on it. McKelvie's house was visited by President Calvin Coolidge during the famous Black Hills sojourn of 1927.

Hardrock gold, silver and other mining pursuits offer dozens of sites within the Black Hills National Forest, but the integrity and condition of most of these is poor, and access is frequently limited. When allowance is made for these conditions, however, historic mines in the Forest offer an important cultural resource. To provide some structure for a complex topic, a set of categories follows.

Small Mines in Poor Condition and of Little Historic Consequence

Included in this category are dozens of sites, with at least a few examples in most Ranger District of the Forest. Remains at these sites could include anything from abandoned trenches, prospect holes and/or shafts, to ruins or small standing structures in poor to fair condition. Depending on the location, the claimants may have attempted to mine anything from gold and silver to tin, lead, quartz, mica, feldspar, beryllium, copper or uranium.

These sites are considered of little significance because their integrity and condition is poor, their historical significance is limited and they are not important as far as illustrating the development of any themes other than mining. Examples would include 39PN41, the Stan Penn Mine (McKay 1975h), 39PN576, a mine/habitation along Castle Creek (Cassells and Miller 1982h), 39PN254, a small mine near Victoria Creek (Popelish 1978), 39LA209, an unidentified mine and ruined structure near Gimlet Creek (Wichman 1978), and 39CU562, the Lincoln Fracture Fraction Mine, a beryllium mine south of Custer that dates pre-1954 (Cassells 1981f).



Fig. 10-2: The Lincoln Fracture Fraction beryllium mine pit, 39CU562 (from Cassells 1981f).

Mines in Poor Condition but of Some Historical Consequence

This category includes sites once significant in Black Hills mining, but now largely or totally destroyed. These sites once contained mines and mills of some size, may have included surrounding towns or small supporting communities, and attracted some attention from investors and students of mining in the Black Hills. A common characteristic of this category is the poor condition of the physical remains present.

Examples in this category include one of the few copper mines in the Hills, the Dakota-Calumet (39PN178), which operated in the Sheridan area from ca. 1900 to 1925 (Cassells and Miller 1982b), and the Meyersville mining camp, 39PN461, near Rochford, occupied from ca. 1878 to 1884, with a reoccupation

by James Cochran from 1890 to 1917. Cochran built a frame two-story house on a probable mill site, and it remains today as the sole architecture at Myersville. To the east of Myersville, and hardly separable from it, is the Alta townsite, consisting of one reasonably good mill structure, and a number of collapsed buildings (Cassells and Miller 1982h). Alta was established by James Cochran by 1878, with some claims being worked there until 1936. Alta (39PN462) is rapidly falling into total ruin. Over the divide to the south of Myersville and Alta is the Lookout townsite (39PN575), originally founded in 1882. In 1884, the town had a population of 600 people, and could boast a 40-stamp mill. In 1894, the Castle Creek drainage, including Lookout, was claimed as part of the Nellie Consolidated Placer.

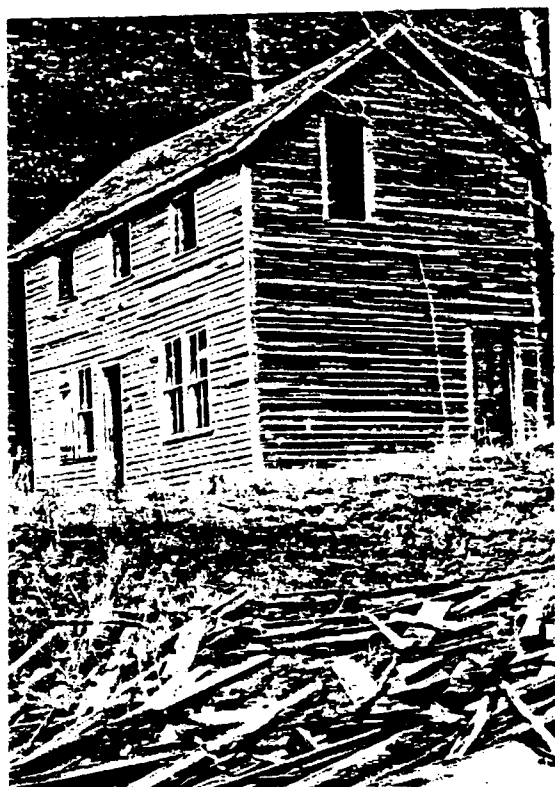


Fig. 10-3: The Cochran house built 1890 at Myersville, the only standing structure there (in Cassells and Miller 1982h).

Fig. 10-4:(right) A view of the rear of the Alta-Lodi mill at Alta, with the ore cart trestle visible (in Cassells and Miller 1982h).



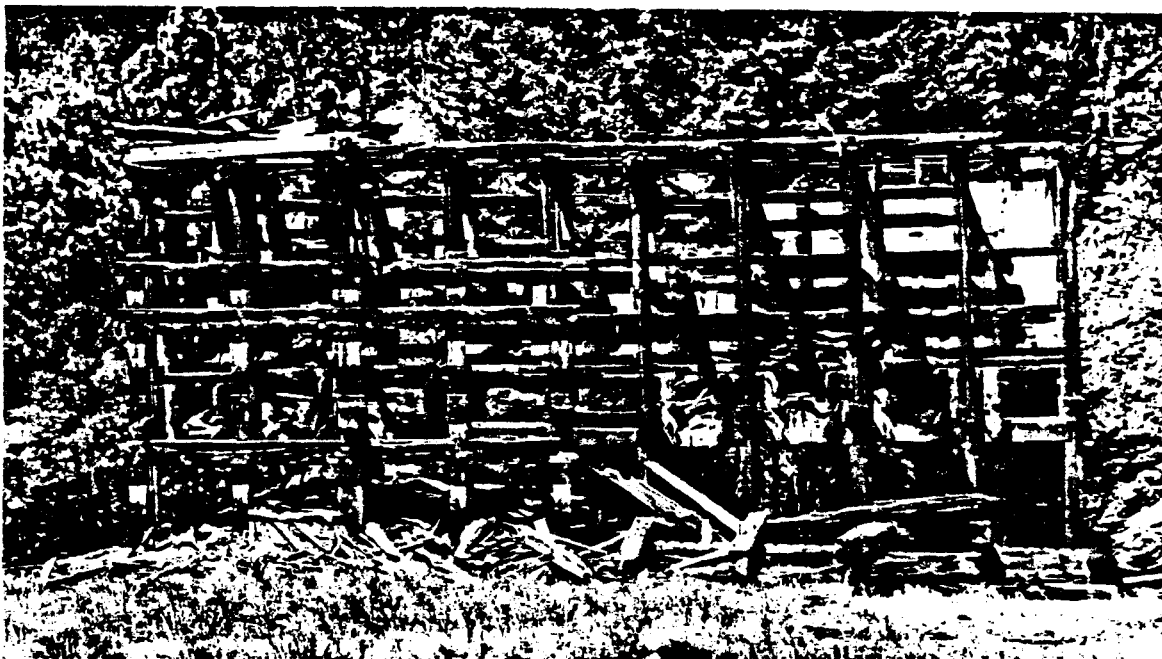


Fig. 10-5: Standing remnants of the Lookout mill in 1982 (in Cassells and Miller 1982h).

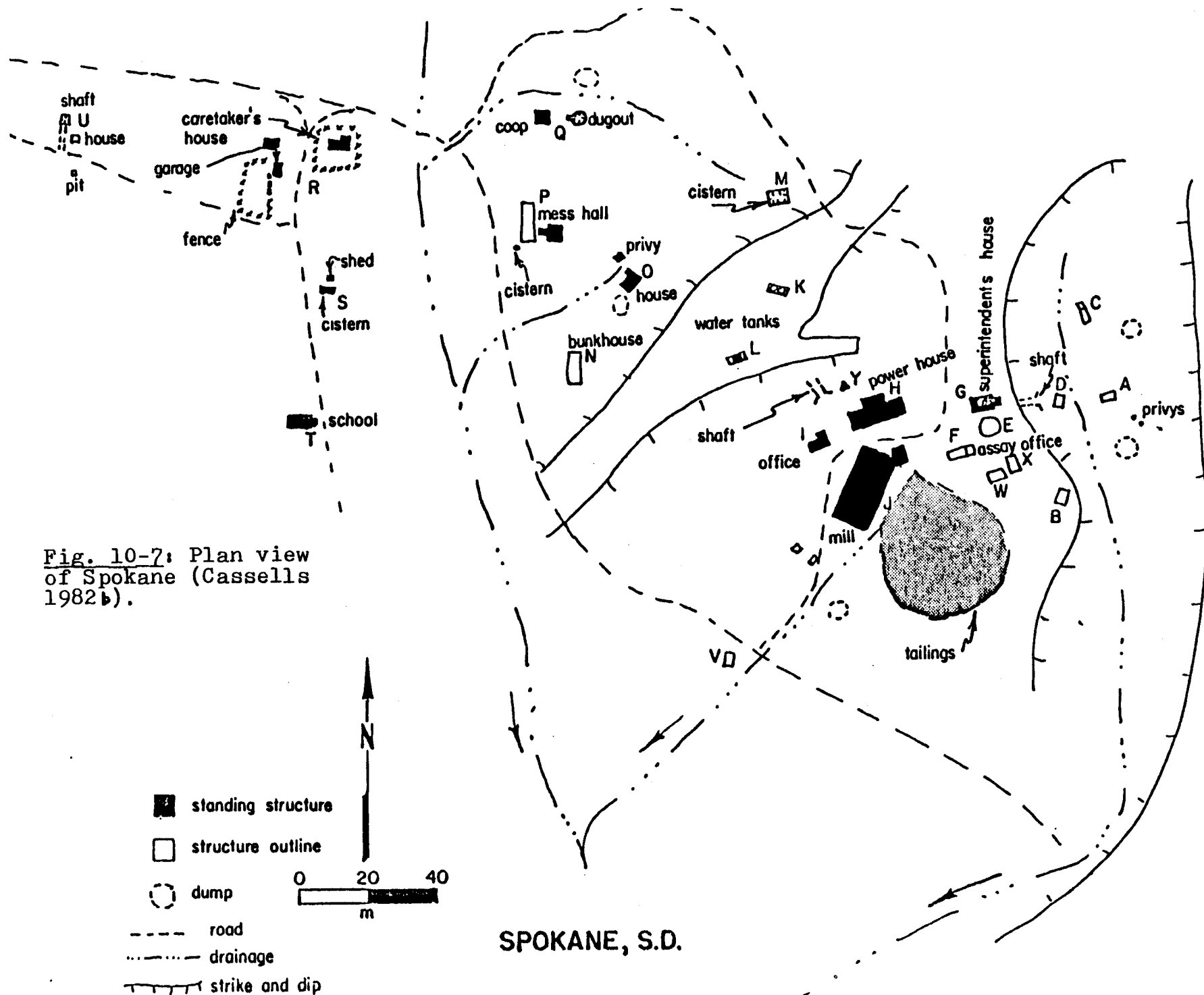
Many of the larger Black Hills mining operations were located in the area exempted from the Forest Reserve around Lead and Deadwood, such as Spearfish Cyanide, Cleopatra and Bald Mountain (Klock 1975), or if located elsewhere, have remained in private hands because of their mineral potential.

Mines With Structures Reasonably
Intact Which Could Be Preserved
For On-Site Interpretive Purposes

Within the Black Hills National Forest, only one site appears to fit into the category of good preservation on enough structures to make it outstanding for public interpretation. It is the Spokane mine, mill and townsite (39CU624). The site includes houses, a school, a large mill, a power house, office, and a number of foundations and pits (Cassells 1982^b).



Fig. 10-6: (left)
Mill and head-
frame at Spokane
(in Cassells
1982^b).



Spokane is a reasonably accessible site with a well documented history that is quite typical of many Black Hills mining ventures. The principal reason it has survived the past 94 years since its founding in 1890 is that a caretaker lived there until after 1970. Even so, during the past 14 years, some stripping of wood from the school and other structures has begun to reduce its integrity to a degree.

There are other classic examples of mining communities and associated areas with sufficient site integrity to be used for interpretive purposes, such as the Standby mill near Rochford, or the Cleopatra Mine near Spearfish Canyon, but Spokane is without a doubt the best mine, mill and town yet located on Black Hills National Forest land.

FLUMES

There were basically two functions that flumes served in the Black Hills. These were providing water to mining operations, and serving as a source for water to drive turbines in hydro-electric power operations.

Hydro-electric plants are privately owned, but some of the Homestake Mining Company's Spearfish Canyon flumes and tunnels, and the Black Hills Power and Light's Big Bend flumes pass through or under Forest holdings.

Mining flumes and ditches have survived in some parts of the Forest. The best of them is the Rockerville Flume (39PN235, 39PN317, 39PN236). The town of Rockerville, located west of Rapid City, was a region having great placer mining potential, with the exception of its lack of a good water source. Such a deficiency led to its name, where rockers were used in place of the more normal sluice boxes. Water could be kept and reused in rockers. In 1879, two years after the founding of Rockerville, a group of enterprising investors (the Rockerville and Spring Creek Hydraulic Co.) began damming Spring Creek, a drainage north and west of Rockerville, and over a major divide. They wanted to carry water to the town along a series of ditches. Eventually they realized this was beyond the scope of their finances, and the next year secured the aid of individuals in New York, forming the Black Hills Placer Mining Company. That year a sawmill was constructed near Sheridan, and it provided 4,600,000 feet of lumber for the task. In many places a foundation of dry-laid local rock was built first, and then the flume was laid on top. Trestles were used to cross the many valleys along its 18 mile course. The job took six weeks to complete, and required constant maintenance to keep it functional. A boy was hired to patrol it each day, stopping up leaks with rags. Also, horse manure was often put in at the head of the flume, and it would help to contain leaks along the way. By the late 1880's, due to a combination of lack of money and concern, the flume deteriorated to the point that it could no longer carry water, and it was abandoned. Although most of the wood is now gone, the well-

constructed grade and trestle footings are still visible along most of its route, much of it being inside the Black Hills National Forest (Cassells 1980 ,1980 ; Fatout 1956).

GHOST TOWNS

This is a category used by a number of investigators in the Black Hills and elsewhere in the West, and basically is inappropriate for historical analysis and interpretation. Understanding of historic life here cannot come from the consideration of a community simply because it is "dead". All abandoned Black Hills towns can be categorized under one of the many themes (mining, tourism, agriculture, etc.), and it is through this type of categorization that it is possible to understand the local and regional history.

HOMESTEADING, FARMING AND RANCHING

There were hundreds of homesteads filed in the Black Hills, and farming and ranching (including summer grazing) have been important economic activities in the around the Black Hills from the beginning of the frontier era.

Unfortunately, almost all agricultural operations in the Black Hills have developed in one of two directions. Surviving farms and ranches have patented land on which their structures are located, and these areas are not within the National Forest holdings. Those lands which held unsuccessful homesteads, farms and ranches have, in many cases, reverted to the National Forest, but the structures located on them have not been maintained and have fallen into ruin. Access to most the the Forest has made it easy for scavengers to strip the sites. Dozens of examples have been recorded on the Forest.

These would include 39CU441 from the southern Limestone Plateau, a small undocumented homestead ca. 1908 (Cassells 1979).

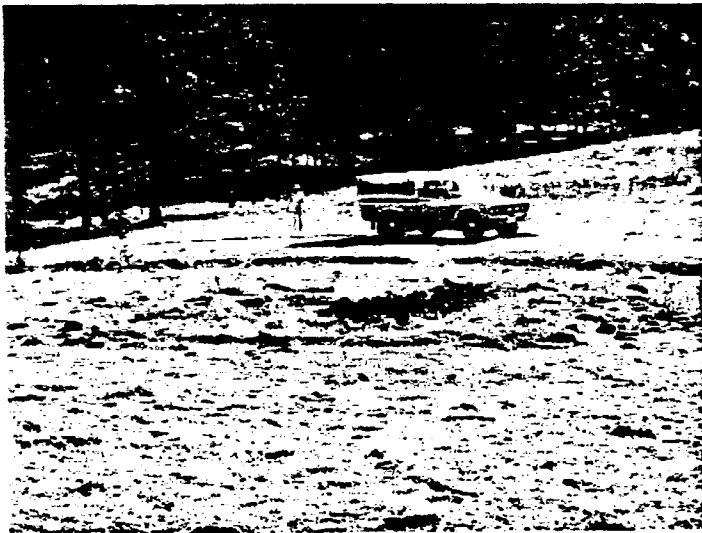


Fig. 10-8: Rock founda-
and partial basement
remnants of the homestead
at 39CU441 (Cassells 1979).

The Michaud homestead, along Lightning Creek, was established in 1911. Much of it is on private land, and includes a stone house foundation, root cellar, a log chicken coop and a two room shed (Tratebas 1976f). On the western side of the Hills, atop a plateau of Minnelusa sandstone is a small homestead, 48CK460. It was homesteaded prior to 1906 by W.L. Hilton, but the taxes were never paid on it. It was sold for taxes in 1907, and it reentered Public Domain as part of an exchange in 1929. Visible there is a shallow rectangular pit outline of the house, with a dry-laid sandstone chimney on its south end. Several mounds and pits occur nearby. A dump was located over the edge of the plateau, and a number of furrows were still recognizable there (Cassells 1982a).



Fig. 10-9: Outline of house and the sandstone fireplace at the Hilton homestead on the northwest edge of the Hills in Wyoming (48CK460) (in Cassells 1982a).

The main value of these sites would be to historical archaeologists. They offer very little in the way of interpretive use. Those sites that do retain structures and a good documentable history still remain in private hands. These would include the Doll Ranch west of Custer, the Housle Ranch west of Rochford, and the Frowley Ranches and the Ridley Ranch at the northern edge of the Forest in Centennial Valley.

Associated with early settlers is the Cold Springs School, located near Pringle. It is on Forest Service land, and has the distinction of being the first Forest Service cultural resource in the Black Hills to be listed on the National Register. The Cold Springs School is one of the last surviving log school-houses in South Dakota or Wyoming, dating from 1887 (McKay 1976).

TIMBER AND LOGGING

Although the Black Hills National Forest has furnished most of the raw materials necessary to allow the lumber industry to exist, physical remains of the timbering are not abundant. The structure of the Black Hills lumber industry was built around small portable sawmills until ca. 1900. Even after this date, small sawmills were important in most sections of the Black Hills National Forest, and policies were created to accomodate these operations. Large sawmills were constructed on private land and were dependent on rail transportation. Even larger Homestake mills which sawed logs taken from timber sales within the National Forest were usually located on company owned land. When contracts were finished, mills could be moved to other locations. The construction of an improved road system through the Forest changed transportation patterns somewhat, and created problems for one of the largest lumber firms in the Black Hills, the Warren-Lamb Lumber Company. Larger mills, however, continued to be located outside Forest holdings, and Homestake abandoned its policy of operating several mills in individual Forest working circles, opting for a single centralized mill at Spearfish. The practical result of all these characteristics is that well-preserved logging and sawmill sites of historic significance on Forest holdings are almost impossible to find. Existing historic sawmill sites that are located during cultural resource surveys offer very few physical remains. Generally speaking, if a sawmill can be identified, it contains sawdust piles, collections of slash, odd pieces of machinery and building foundations and dumps.

Examples of these lumber-related sites include 39LA10, a ca. 1947 temporary sawmill found during the Ireys-Buskala Timber Sale survey (McKay 1975e), 39CU178, a small portable sawmill site near Pringle (Groenfeldt 1978), and 39CU214 and 39CU215, both small sawmills near Custer (McKay 1976). 39CU215 may date from ca. 1900 or slightly earlier, while 39CU214 perhaps was built ca. 1940. 39CU215 retains the circular saw, carriage, sawpit and floor, unusual preservation for the Black Hills. Another unusual timbering-related site is a lumber camp associated with the railroad construction and wood-cutting of Warren-Lamb Lumber Company, located north of Victoria Creek inside the Yellow Thunder Camp boundaries. Known as 39PN452 (Cassells 1982c), it consists of a number of collapsed temporary structures, an oven alongside the tracks, a spring, and a dump with an inordinate number of hole-and-cap soldered tin cans, something not expected in ordinary homesteads, where canning was more common. This camp appeared to be male dominated, and undoubtedly tied to Warren-Lamb.



Fig. 10-10: The heavy concentration of soldered tin cans at 39PN452, a temporary camp of the Warren-Lamb Lumber Company, used by railroaders and/or lumbermen ca. 1914 (Cassells 1982c).

TOURISM AND RECREATION

The use of Forest lands for hunting, fishing, camping, hiking, sightseeing and other forms of outdoor recreation has always been significant.

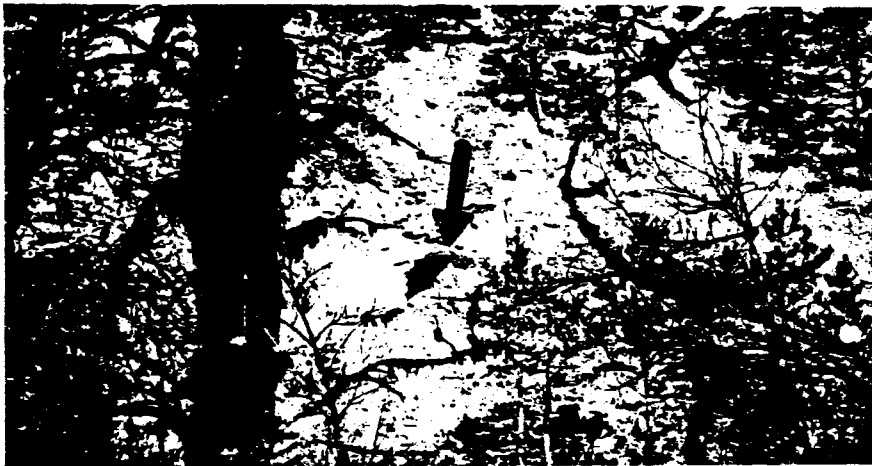


Fig. 10-11: Onyx Cave in 1979, as viewed from the ridge to the west (Cassells 1979a).

One of the more unusual Forest properties is Onyx Cave, a small cave located west of Hot Springs that was a popular tourist attraction ca. 1900 (Gage 1901; Cassells 1979a). It was established in 1894, and perhaps existed until the 1920's. At present,

besides the cave itself, there are remnants of the commercial building foundations on an adjacent ridge.

Existing campgrounds exemplify the evolution of recreational facilities in the Forest, from the very basic facilities at Moon and Timon, to the Sheridan and Pactola Lake campgrounds that offer a variety of services and comforts.

Hunting and fishing opportunities within the Forest have been enhanced largely by other federal and state agencies. After the passage of the Multiple Use and Sustained Yield Act of 1960, however, the increased Forest Service commitment to improving wildlife habitat and stream quality as an objective of Forest policy has indicated a growing commitment to recreation as well. Road closures along streams such as Iron Creek and Little Spearfish Creek, and controlled burns aimed at improving wildlife habitat and the development of nature trails all serve as illustrations of these themes. Recent policies aimed at eliminating cabin leases within the Forest serve as an indication of changing emphasis in some historic National Forest recreational use policies in the Black Hills, as do policies limiting vehicular access to some sections of the Forest that were historically open to unlimited traffic.

FEDERAL POLICY AND THE DEVELOPMENT OF THE BLACK HILLS NATIONAL FOREST

The Black Hills National Forest has assumed a key role in the development of National Forest policy throughout the United States. Problems created by the designation of the Black Hills Forest Reserve were important in creating the original system of Forest administration with the Act of 4 June 1897. The Black Hills was the site of the first National Forest timber sale in the United States. It served as a study area for the development of early sustained yield policies. The Custer State Park land exchange was a pioneering attempt in the development of land exchange management technique. The CCC and the WPA left an indelible mark on the Forest. Dams constructed during the post-war era by other federal agencies have significantly influenced Forest use. Overall, the complex pattern of federal, state and local jurisdictions discussed above makes the Black Hills National Forest unique among all National Forests.

48 CK460

343

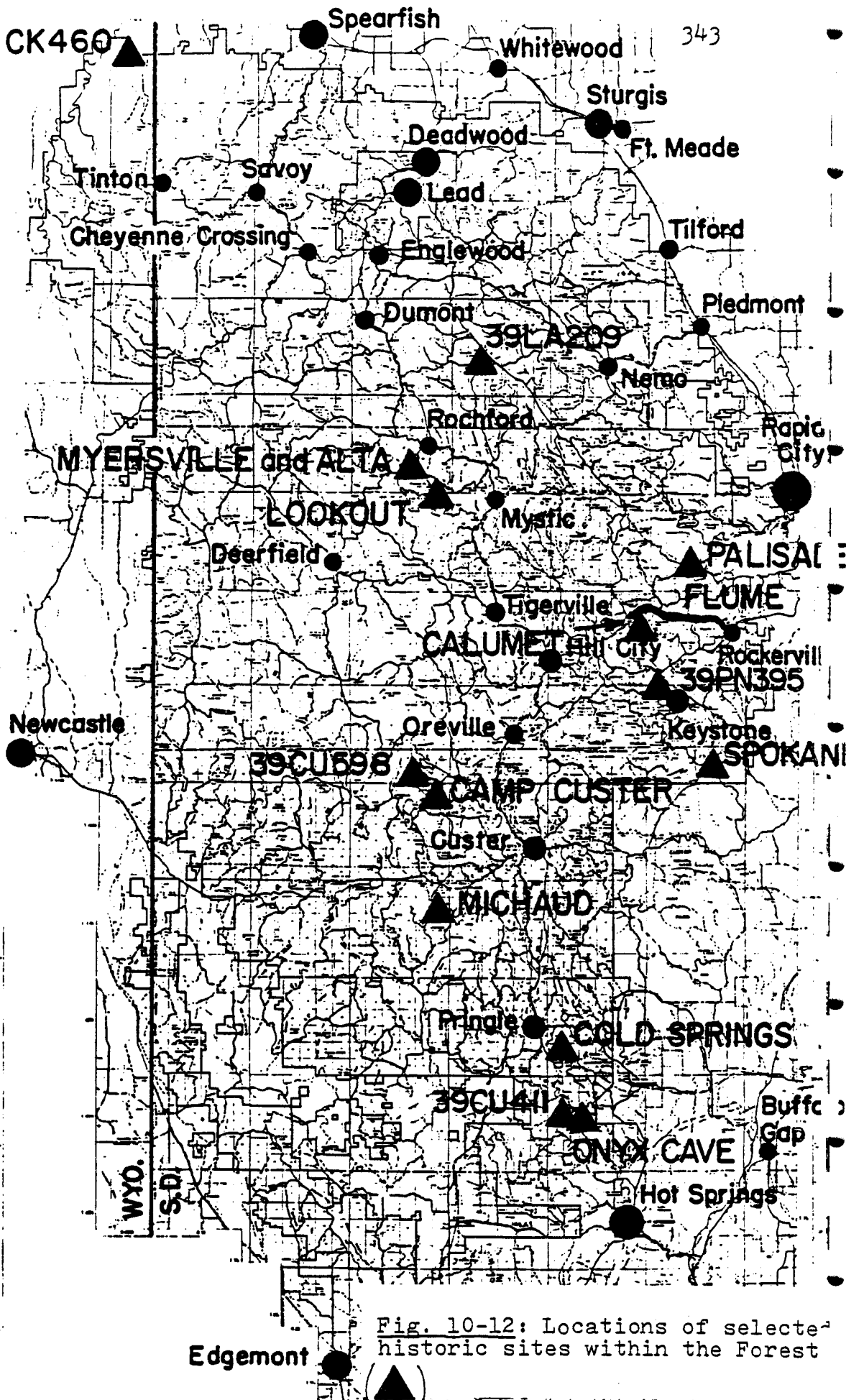


Fig. 10-12: Locations of selected historic sites within the Forest

11 Management Recommendations for BBNF Historic Resources

INTRODUCTION

The role played by the Black Hills National Forest in the evolution of landmark National Forest management policies is unique. The number of distinctive federal and state natural and historic sites within and adjacent to the Forest is also unparalleled in western National Forests. Because many of the resources in the Forest were developed before its creation as a Forest Reserve, the Black Hills National Forest contains thousands of parcels of land held by private individuals. These inholdings further complicate the process of developing comprehensive policies for resource management. Compared to many western National Forests, the lower altitudes and greater accessibility via thousands of roads and trails add to an already complex landholding pattern within the Black Hills creates an interesting mix of potential opportunities and problems for the preservation and interpretive use of the historic cultural resources in the Black Hills National. A similar mix of opportunities and problems is presented by the complex pattern of federal, state and local jurisdictions at or within the borders of the National Forest. In addition to National Forest lands, federal properties in the Hills include those of the National Park Service, the Bureau of Land Management, the Bureau of Reclamation, the U.S. Fish and Wildlife Svc. and the Department of Defense. State lands include those of both the South Dakota and Wyoming Departments of Game and Fish, and Custer State Park, one of the largest state parks in the nation. Waterworks owned by the cities of Spearfish, Hot Springs and Sturgis include property within or very near the National Forest boundaries. All of the properties outlined above played some part in the historical development of the Black Hills.

What follows is a presentation of management recommendations for these unique historic cultural resources, organized by historic theme.

EARLY EXPLORATION

The Custer expedition was one of the most influential of any early federal investigation of the region. In addition, the 1875 Newton-Jenney and Crook expeditions were also of great import. All have produced enough source material to allow relocation of the routes and campsites within the Hills.

It is recommended that the Forest Service begin such a program of interpretive signs for them, following a concerted effort to locate and preserve what evidence remains.

TRANSPORTATION AND COMMUNICATION

Much the same could be said for the routes and sites associated with the early transportation frontier in the Black Hills. Stagecoach and wagon freighting were especially critical in the development of Nineteenth Century industry and settlements. By the same token, railroads formed the latter end of the continuum in connecting the Black Hills with the outside world. To date there has been little energy directed toward identifying, preserving and marking these routes and associated features.

It is recommended that an extensive effort be made to locate the routes that pass through Forest land, determine what evidence remains from the earlier traffic there, what are measures necessary to preserve/record the features, and then provide interpretive signs for the public. Various railroad grades would make excellent interpretive stops, even if rails and ties had already been taken up.

MINING

A variety of mining remnants within the Black Hills National Forest necessitate a variety of measures for proper management.

Placer and hydraulic mining evidence is scattered, quite low in integrity, and limited in interpretive value. There are a few sites at which interpretive signs could be erected, such as at the Saxon Placer (West 1976) and perhaps at the tailings near Mystic. No preservation of these sites seems to be prudent.

Perhaps the most numerous of any mining site type in the Hills are small mines, generally lacking any structural evidence, and having been worked only for a short period of time. Those of this type, already judged insignificant, require no further work.

The sites in poor condition, but having some historic significance, such as Myersville, Alta and Lookout (Cassells and Miller 1982h), do retain some interpretive value, even though standing architecture is limited. Those standing structures still there should be periodically evaluated by a structural engineer or equivalent, and recommendations made concerning future stability and measures for preservation. The Cochran house at Myersville is slowly being stripped of boards off the south side (hidden from the road). Continuation of this will undoubtedly lead to an increased weakening and eventual collapse. Antiquities violations signs should be posted in the vicinity, and a periodic patrol be made there.

Interpretive signs would greatly enhance these historic sites that do retain significant features, and will likely lead to increased appreciation, and perhaps an instilling of a conservation ethic in those who visit the sites.

Of all the mining sites located on Black Hills National Forest land, the Spokane mine, mill and townsite is the best preserved and rivals any other in the Hills for significance. To that end, the Forest Service contracted to have it evaluated and nominated to the National Register. That has been accomplished (Cassells 1982b), and it is being processed in Washington at the time of this writing.

There are some dangers threatening the integrity of the site. The large multi-storied mill has an undermined foundation on one corner. The Forest Service has been notified about this structural defect, and has evaluated it. Hopefully something can be done to stabilize the foundation. In addition, during the 1982 survey and evaluation, it was noticed that every recognizable dump at the site had been recently disturbed by bottle hunters. Antiquities violations signs need to be posted throughout this valuable community, warning would-be collectors of the penalties of illegal excavating/collecting.

Spokane is conducive to public visitation. Located near a major road (U.S. 16 south from Mount Rushmore), and containing a capsule of life at the turn of the century, its value should be shared. It seems reasonable that a number of willing concessionaires could be found to guide tours through the premises

Fencing of the grounds with adequate signs could be used to deter those who would enter during off hours. Perhaps on a less commercial basis, either a local volunteer historical society would be willing to help interpret the site to visitors (much like Friends of Chimney Rock do in guiding visitors to the Chimney Rock Ruin on the San Juan National Forest in Colorado). It is not recommended that visitors be allowed to roam the site unattended, as this would surely hasten its deterioration. It is also recommended that each elevation of the mill be rendered by a professional architectural designer/artist, in the event that it succumbs to its structural weaknesses in the near future.

FLUMES

The flumes in the Black Hills, both for mining and for hydro-electric power, illustrate the fact that there were many ways to exploit economic opportunities in the region.

The Rockerville Flume is an outstanding example of early engineering in the Black Hills, and is ideal for interpretation. The Forest Service has produced a brochure on the flume, and encourages hikers to walk the right-of-way. All that could be added would be the recommendation that signs be placed at each end, as well as a few intermediate stops, such as where large trestles once crossed deep valleys. The flume is a significant resource, and should be nominated to the National Register.

HOMESTEADING, FARMING AND RANCHING

As mentioned in Chapter 10, all of the good evidences of this theme are located on private land. Those unsuccessful ventures that have reverted to Public Domain have been stripped of structural materials, and little remains of interpretive value. Depending on what can be learned from a literature search for various abandoned homesteads, there could be value to historical archaeologists. Some selected homesteads could be marked with interpretive signs for public visitation, but most of these sites are beyond restoration. With the exception of bottle hunters, there is probably not much remaining of value to attract vandals, and the sites should likely remain at their present level of integrity for the foreseeable future.

TIMBER AND LOGGING

Timber related sites on the Black Hills National Forest are rare, due to their original temporary nature which allowed for easy relocation following the receding timber line. Those such as 39CU215 are exceptional, in that it likely dates from ca. 1900, and retains several recognizable features. With the lumber industry playing such an important role in the economic development of the region, these early sites need to be recognized as a resource of great consequence, and National Register eligibility evaluated with this in mind.

THE DEVELOPMENT OF THE NATIONAL FOREST

The Black Hills National Forest is, as has been described already, unique among United States Forest Service properties. The challenge of interpreting this land and the policies developed here is considerable. Some physical remains, dams and scenic resources such as the Pigtail Bridges or historic fire towers provide some insight into policy directions. However, physical remains do not exist to illustrate the cultural significance of such important developments as Case Number One timber sale at Este. Even an interpretive sign or marker can do little to adequately explain the meaning of that event in the evolution of the greatest system of Forest Reserves in the world. The unique and vitally important role of the Black Hills National Forest in the development of Forest policy and the society of the Black Hills cannot be adequately communicated by a series of signs or other interpretive materials scattered throughout the Forest.

To this end, it is recommended that a Visitor's Center be established to fully communicate the variety of cultural experiences that have contributed to the Black Hills National Forest as we know it now. It is true that a Visitor Center

does exist at Pactola Reservoir, but it is limited in scope, as well as in facility size. The construction of a Center near Mount Rushmore, at Custer, or perhaps even near Spearfish or Rapid City, would be a reasonable possibility. The Center should be able to accomodate the construction of a small sawmill, a cabin, and other elements of early Black Hills history, using remnants of the past still existing on Forest land. For example, there are two Butchart Flotation Machines in excellent condition condition at the gold mill along French Creek known as 39CU598 (Cassells 1982d). These could be used in a mining technology display. The Black Hills National Forest is too important in our heritage, and the general public has a need to be exposed to, and better appreciate this legacy.

12 Future Directions

INTRODUCTION

Historic documentation of Black Hills culture has been going on for over the past hundred years, detailing the first explorations of the region, and then describing the successive waves of Euro-American immigrants that displaced the resident Native Americans. Archaeological research over the past several decades has added to our knowledge of those foragers who occupied the Black Hills during the many centuries unrecorded by a literate society. And yet, with this voluminous amount of data, more work is needed to be able to fully document the cultural sequence, the nature of climatic change in the region and the human response to those environmental pressures. With the massive invasion of Euro-Americans since the late 1800's, a number of representative and/or significant sites have yet to be recognized and recorded. Much is yet to be done.

In addition to that, an important part of cultural resource management is the interpretation of known historic and prehistoric information to the general public, both for the purpose of educating them to the wealth of cultural material remaining and how that allows us to look into the past and understand more fully the human experience, and then to encourage the public to take a conservationist position. To that end, what follows is a list of ten selected sites that can be used to communicate the past to Forest visitors.

TEN SITES SELECTED FOR PUBLIC EDUCATION AND APPRECIATION

1. Railroad Grades: This could include any number of grades throughout the Forest. This could include the Warren-Lamb grade along Spring Creek east of Sheridan Lake, where the highway parallels the grade for many miles, making access excellent. Other potential grades could include those along Rapid Creek west of Rapid City, where the Rapid Canyon Line once ran. In the southern Hills, the northward extension of the Grand Island and Wyoming Central (satellite of the Chicago, Burlington and Quincy) that began in 1889 is still being used by the Burlington Northern, the last vestige of a true operating common carrier in the Black Hills. Any or all of these lines could provide a glimpse of early railroading in the Black Hills to interested visitors. No preservation undertakings are required. Instead, interpretive signs could be employed to describe the events surrounding the use of the particular grade and an introduction to Black Hills railroading as a whole.

2. Stagecoach/Wagon Freighting Routes: The principal north-south route across the Hills is the Cheyenne to Deadwood trail. Although there are early maps detailing this right-of-way, actual locations on the ground are lacking. It is recommended that examples of this route are located, hopefully

with visible ruts. These segments of the stage route should be marked with interpretive signs, and nearby stage stops should be pointed out. Examples of this may be found along Pleasant Valley south of Custer, in the vicinity of S & G Canyon, where the Twelve Mile Stage Station still exists on private land, or perhaps on the north edge of Reynolds Prairie, where the route passes the Reynolds Ranch Stage Station and then enters Forest Land.

3. The 1874 Custer expedition: It is a significant, well-known occurrence in the Black Hills, one that forever changed the history of the region. Based on comparative photography and copious notes on the trip, the entire route has been plotted and revisited. Many of major highways and Forest roads intersect or parallel the Custer route. As with the railroad and the stage routes, it is recommended that the Custer route be marked with signs at convenient access points. This could include the well-photographed point northwest of Deerfield Reservoir along Castle Creek, the point east of the Forest Supervisor's Office in Custer where they passed both entering as well as leaving the Hills, along the Pleasant Valley route that overlaps the Cheyenne-Deadwood stage route, and/or in the southern Hills along Chilson Canyon, where the Burlington Northern Line overlaps Custer's side trip to the Cheyenne River.

4. Spokane: This town, mine and mill is the best preserved example of an early mining community on Forest Service land in the Black Hills. It should be maintained as well as possible and interpretive signs can be placed at a number of documentable locations, but access should be limited to groups under the control of responsible parties - either one or more concessionaires, volunteer historic societies or Forest Service personnel.

5, 6. Rochford-Area Mining Communities: The mining district around Myersville contains a number of community and mine remnants that are excellent examples of turn of the century life in the Hills, especially when coupled with the Standby Mill, nearby on private land. These include Myersville, Alta, Lookout and a cluster of mines and cabin outlines in Poverty Gulch. Signs at critical points can illuminate the vivid history of this locale. Sufficient standing architecture remains to illustrate what it might have been like there nearly 100 years ago. Some stabilization may be required on the Cochran house at Myersville.

7. Stone Circles: There are a number of aboriginal sites within the Hills, but most do not lend themselves well to public appreciation, consisting simply of a surface or subsurface distribution of lithic artifacts. Stone circles, the outlines of early structures, do impart a sense of prehistoric camping. They generally have another advantage of lacking much in the way of surface artifacts. Subsurface artifacts are also often quite sparse. If stone circles are used for interpretive purposes, they should first be examined, and any visible

artifacts collected. Any interpretive signs should stress that subsurface artifacts are generally lacking at such sites (to make illicit digging seem fruitless), and also mention antiquities laws that govern all cultural resources on Public Lands. An example of such a site, easily accessible from Pleasant Valley Road, is 39CU468 (Cassells 1980f).

8. Southern Hills Rock Art: There are numerous rock art panels within several canyons along the southern Black Hills, many of which are on Forest Service land (see Chapter 4). They have all been recorded within the main canyons, and visitation is taking place there now, as it has gone on for decades. It would seem quite proper to provide interpretive material for visitors, much like the Bureau of Land Management has done for travellers along Canyon Pintado in Colorado.

9. Southern Hills Rockshelter: Accessibility may be a problem with some rockshelter sites, as most cluster along the southern Hogback. An additional problem with such sites would be the potential damage to them by visitors who might be tempted to excavate in them. If a controlled excavation would first be conducted by professionals, then the site could be opened to the public, and ample interpretive material would be available as well. Ash Hollow Cave in Nebraska is an example of how such a site could be opened. Glass was placed in front of the excavated units there, and a small display revealed the type of sequence found at the cave. A similar undertaking could be employed in the Hills. Examples of such a shelter includes 39FA395 (Haug 1977b).

10. Rockerville Flume: This flume is now a Forest Service hiking trail. Masonry grades are easy to follow from Sheridan Dam to Rockerville. It is recommended that a new brochure be prepared that details the flume's history, locates the grade, and encourages site conservation. Signs should also be emplaced.

FUTURE DIRECTIONS FOR RESEARCH

Prehistory

1. The Black Hills National Forest cultural resource survey program should continue until the entire property has been covered.

2. Paleoenvironmental reconstructions have been employed on a very limited scale to date. Future investigations should utilize the full range of available data (e.g. pollen, macrobotanical, micro and macrobotanical remains) to detail the local ecological shifts over the past 11,000 years or more. Bogs, paleosols and other sources in the vicinity of archaeological excavations should be sampled with soil columns in order to fully extract climatic information.

3. Survey evidence suggests a lack, or at least a diminished presence of Early Archaic/Altithermal foragers in the Black Hills. Future investigators should be aware of this hole in the data base and attempt to clarify the situation further.

4. As part of the Altithermal documentation, radiocarbon samples that have already been collected should be processed, as the Black Hills does not have a great number of C-14 dates at present. A concerted effort to recover Early Archaic samples, along with a full spectrum of dates from all cultural periods in good stratigraphic context with diagnostics should be made.

5. Although the Black Hills appear to have been the domain more of cultures from the Northwestern Plains, evidence exists from Missouri River horticulturalists as well. This geographic overlap has created terminological problems that still remain to be resolved. Perhaps a conference of researchers from both the Missouri Trench and the Northwestern Plains could be convened to establish the system to the satisfaction of all.

Ethnohistory

1. Based on the controversy currently brewing about the sacred nature of the Black Hills, it appears that additional ethnographic information should be sought to assist in a final solution.

2. In conjunction with this, the knowledge of early aboriginal utilization of the Black Hills could benefit from additional literature consultation and evaluation.

History

1. With such a wide variety of log cabin architectural styles in the Black Hills, due to an influx of settlers and miners from different parts of the United States and abroad, there is a real need for a thorough documentation and analysis of the structures before they totally disintegrate. These styles need to be viewed in a chronological framework, as well as in the cultural/geographical backgrounds of the builders.

2. In conjunction with the architectural analysis, tree ring studies should be employed to date the cabins. Samples need to be collected from every cabin with usable logs, along with the building of a collection of samples from fresh cut trees that have an age over 100 years. These can be gathered from the stumps of trees in timber sales, or from the bases of trees in various sawmills, prior to them being milled. Since the Black Hills has a northern climate and a southern climate, two separate tree ring series will need to be constructed. The Laboratory of Tree-Ring Research in Tucson has been involved with Plano Archaeological Consultants in an initial data collection program. Several large samples from

freshly-cut trees have been sent to the lab, along with many log ends collected from collapsed cabins in several sections of the Black Hills. As of the present time, no chronological series has been completed. Additional collecting from diverse areas of the Hills are going to be required before this goal will be realized. In the interim, it is recommended that cabin log samples continue to be assembled by all contractors who conduct cultural resource surveys on Forest Land. The past policy has been to only cut ends of logs if they have already fallen away from the structure's wall. Any logs that are still integral parts of structures should only be sampled with an increment borer. All of these should be sent to the Laboratory of Tree-Ring Research to be added to the current collection.

3. At present, the primary source on Black Hills railroading is Fielder's Railroads of the Black Hills (1964). Although it is an admirable attempt to collect data on early rail history in the region, it lacks much information on the lumber and mining railroads that were so much a part of Black Hills development. There is a real need for a new railroad history to be produced.

4. The best documented mining operation in the Black Hills is the Homestake Mining Company. Once beyond that rich source of history, good information diminishes quickly. A monograph on mining in the Black Hills, exclusive of Homestake Mining Company, should be produced.

5. A monograph should be produced on the Black Hills lumber industry, and Warren Lamb Lumber Company should be one of the central portions of that study. In spite of the central role played by the lumbering industry in the past, as well as at present, there is no assembled study on this topic that can give proper credit to this foundation of the Black Hills economy.

6. This present paper, an overview of Black Hills National Forest cultural resources, is intended as a base document to be used for future research and planning. It is not a comprehensive history of the Black Hills, detailing all of the events that took place there. A far more detailed treatment is needed for the entire region.

13 Summary

The Black Hills National Forest, though compact in that it is made up of mostly contiguous parcels of land, is also highly diverse, due to it covering 1,235,453 acres over an area roughly 120 miles north-south by 40-50 miles east-west. The result is such a variety of resources that necessitates a broad overview in order to adequately consider the Forest in proper perspective.

The Black Hills are legitimately considered a lush island in the midst of a dry prairie world. As a result, early plains occupants considered it an excellent source for some necessary economic resources, making periodic, and perhaps frequent visits to the region. On the other hand, the Black Hills are too dry, as opposed to the Missouri Trench, to support permanent horticulturally-based economies during prehistoric times, and this is evidenced by archaeological sites that primarily contain evidences of hunting and gathering. The local climate appears to have been the major factor in determining and limiting cultural development there.

The greatest impetus to Euro-American settlement in the Black Hills was the discovery of gold there during the 1870's. That most of the gold seekers did not become financially independent as a result is incidental to the long-term history of the region. What followed was a major influx of individuals who developed what has become modern Black Hills society.

The Black Hills National Forest was born out of the desire of the federal government to protect massive timber acreage from forest fires and "reckless cutting". Although initially this did create a barrier to mining and timber cutting, the policies have since evolved to the present multiple use plan that have encouraged a wide variety of activities to be carried out there. The Forest has become the primary basis for the economic health of the region. Without the long-term federal presence on a management level, one could expect a vastly different, less viable culture. As it is, the inherent beauty of the region is known internationally, and it will continue far into the future as a place attractive for settling, working and sightseeing.

References Cited

- Adovasio, J.M., J.D. Gunn, J. Donahue, R. Stuckenrath, J.E. Guilday and K. Volman
 1980 Yes Virginia, It Really is That Old: A Reply to Haynes and Mead. AMERICAN ANTIQUITY, V. 45, N. 3:588-95.
- Agenbroad, Larry D.
 1977 MAMMOTH SITE OF HOT SPRINGS, SOUTH DAKOTA. The Caxton Printers, Ltd.
 1978 THE HUDSON-MENG SITE: AN ALBERTA BISON KILL ON THE NEBRASKA HIGH PLAINS. University Press of America.
- Agogino, George A.
 1972 Excavations at a Paleo-Indian site (Brewster) in Moss Agate Arroyo, Eastern Wyoming. NATIONAL GEOGRAPHIC SOCIETY RESEARCH REPORTS 1955-1960:1-6.
- Alex, Lynn Marie
 1979 39BU2: A Fortified Site in Western South Dakota. NEWSLETTER OF THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY, V. 9, N. 3:3-7.
 1980 EXPLORING IOWA'S PAST: A GUIDE TO PREHISTORIC ARCHAEOLOGY. University of Iowa Press.
- Alex, Lynn M. and Larry Zimmerman, eds.
 1979 Phelps Collection Donated to South Dakota Archaeological Research Center. NEWSLETTER OF THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY, V. 9, N. 2:1-2.
- Alex, Robert A.
 1973 Architectural Features of Houses at the Mitchell Site (39DV2), Eastern South Dakota. PLAINS ANTHROPOLOGIST, V. 18, N. 60:149-59.
 1980 A Central Plains Tradition Site in Tripp County? NEWSLETTER OF THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY. V. 10, N. 1:5.
 1981 Village Sites Off the Missouri River. IN: Zimmerman and Stewart (eds), The Future of South Dakota's Past. SPECIAL PUBLICATIONS OF THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY, N. 2.

- Alleger, C.N.
n.d. CIVILIAN CONSERVATION CORPS, SOUTH DAKOTA HISTORY.
Johnson and Bordewyk, Inc., Rapid City.
- Alter, J. Cecil
1962 JAMES BRIDGER. University of Oklahoma Press.
- American Anthropological Association
1983 Motion in support of the nomination of Yellow
Thunder Camp as an archaeological district for
the National Register of Historic Places.
ANTHROPOLOGY NEWSLETTER, V. 24, N. 1:5.
- American Guide Series
1938 SOUTH DAKOTA: A GUIDE TO THE STATE. Federal
Writers Project, Works Progress Administration.
- American Legion Auxiliary
n.d. EASTERN PENNINGTON COUNTY MEMORIES. American
Legion Auxiliary.
- Andreas, A.T.
1884 ANDREAS' HISTORICAL ATLAS OF DAKOTA. A.T. Andreas.
- Andrist, Ralph K.
1964 THE LONG DEATH; THE LAST DAYS OF THE PLAINS
INDIAN. Macmillan.
- Baerreis, D.A. and R.A. Alex
1973 An Interpretation of Midden Formation - The Mill
Creek Example. MINNESOTA ARCHAEOLOGY SERIES, N.
11:143-48.
- Baerreis, D.A. and R. Bryson
1965 Climatic Episodes and the Dating of the Mississip-
pian Cultures. WISCONSIN ARCHAEOLOGIST, V. 46,
N. 11:143-48.
- Baldwin, George P.
1904 THE BLACK HILLS ILLUSTRATED: A TERSE DESCRIPTION
OF CONDITIONS PAST AND PRESENT OF AMERICA'S
GREATEST MINERAL BELT. Black Hills Mining
Association.
- Bannon, John F.
1971 THE SPANISH BORDERLANDS FRONTIER, 1513-1821.
Alfred Knopf.
- Beardshear, W.D.
1926 Lumbering in the Black Hills. BLACK HILLS
ENGINEER, V. 14:39-44.
- Beers, Henry P.
1935 THE WESTERN MILITARY FRONTIER, 1815-1846. Phil-
adelphia.

- Benedict, James B.
 1979 Getting Away From It All: A Study of Man, Mountains and the Two-Drought Altithermal. SOUTHWESTERN LORE, V. 41, N. 3:1-12.
- 1981 Prehistoric Man, Volcanism and Climatic Change: 7500-5000 ¹⁴C Yr. B.P. ABSTRACTS WITH PROGRAMS 1981, Geological Society of America, V. 13, N. 7:407.
- Benedict, James B. and Byron L. Olson
 1978 The Mount Albion Complex: A Study of Man and the Altithermal. CENTER FOR MOUNTAIN ARCHAEOLOGY, RESEARCH REPORT.
- Bennett, Estelline
 1928 OLD DEADWOOD DAYS. J.H. Sears and Co.
- Berthrong, Donald J.
 1963 THE SOUTHERN CHEYENNE. University of Oklahoma Press.
- Blair, E. (ed.)
 1911 THE INDIAN TRIBES OF THE UPPER MISSISSIPPI VALLEY AND REGION OF THE GREAT LAKES. Arthur C. Clark Co.
- Boen, Renee M.
 1977a Preliminary Report on the Cultural Resources Survey of Bogus Jim (P15) Timber Sale, Pactola District, BBNF, (P-10-77). Ms., SDARC
- 1977b Preliminary Report on the Cultural Resources Survey of Kelly (N18) Timber Sale, Nemo District, BBNF, (N-15-77). Ms., SDARC.
- 1977c Preliminary Report on the Cultural Resources Survey of the Bear Gulch (H7) Timber Sale, Harney District, BBNF, (H-4-78). Ms. SDARC.
- 1977d Preliminary Report on the Cultural Resources Survey of Spring Creek (H3) Timber Sale, BBNF, (H-21-78). Ms., SDARC.
- 1977e Cultural Resources Survey of the Proposed Tigerville Buried Cable Route, Pennington County, South Dakota, (H-28-78). Ms. SDARC.

- 1977f Preliminary Report on the Cultural Resources Survey of Ventling Reservoir (C18) Timber Sale, Custer District, BBNF, (C-20-78). Ms., SDARC.
- 1977g Cultural Resources Survey of the Proposed Pipeline and Reservoir for L.K. Ripple, Lawrence County, South Dakota, (N-21-77). Ms., SDARC.
- 1978a Cultural Resources Survey of the Proposed Clog Gulch to the Black Forest Inn Buried Cable Route, Pennington County, South Dakota, Harney District (H24), Pactola District, BBNF (P-1-78). Ms. SDARC.
- 1978b Cultural Resources Survey of the Proposed Buried Cable Route in the Vicinity of Robaix Lake and Custer Crossing, Lawrence County, South Dakota, Nemo District, BBNF, (N-31-78). Ms. SDARC.
- Bonnichsen, R.
1978 Critical Arguments for Pleistocene Artifacts from Old Crow Basin, Yukon: A Preliminary Statement. IN: A.L. Bryan, (ed.), OCCASIONAL PAPERS, N. 1, DEPARTMENT OF ANTHROPOLOGY, UNIVERSITY OF ALBERTA: 102-18.
- Bourke, John G.
1892 ON THE BORDER WITH CROOK. Charles Scribner's Sons.
- Bowers, A.W.
1950 MANDAN SOCIAL ORGANIZATION. Publications in Anthropology, University of Chicago Press.
- Brackenridge, H.M.
1815 JOURNAL OF A VOYAGE UP THE RIVER MISSOURI. Coale and Maxwell.
- Bronson, William and T.H. Watkins
1977 HOMESTAKE: THE CENTENNIAL HISTORY OF AMERICA'S GREATEST GOLD MINE. Homestake Mining Company.
- Brown, Jesse and A.M. Willard
1924 THE BLACK HILLS TRAILS: A HISTORY OF THE STRUGGLES OF THE PIONEERS. Rapid City Journal Co.
- Brown, Mabel E. and Elizabeth Thorpe
1962 THEN THERE WAS ONE; THE STORY OF CAMBRIA, TUBB TOWN AND NEWCASTLE. Newcastle, WY.
- Bruce, Edgar
1935 GUARDING THE FRONTIER: A STUDY OF FRONTIER DEFENSE FROM 1815 to 1825. University of Minnesota Press.
- Bruner, Edward M.
1961 Differential Change in the Cultures of the Mandan from 1250-1953. IN: E. Spicer (ed) PERSPECTIVES IN AMERICAN INDIAN CULTURE. University of Chicago Press.

- Bryan, Jerry
1960 AN ILLINOIS GOLD HUNTER IN THE BLACK HILLS.
Illinois State Historical Society.
- Bryson, Reid, David A. Baerreis and Wayne M. Wendlund
1970 The Character of Late Glacial and Post-Glacial
Climatic Changes. IN: Dort and Jones (eds.),
PLEISTOCENE AND RECENT ENVIRONMENTS OF THE
CENTRAL GREAT PLAINS. University of Kansas,
Department of Geology, Special Publications,
N. 3:53-74.
- Buechler, Jeffrey V.
1980a A Cultural Resources Survey of Proposed Access
Routes of the Chord Project, Fall River County,
South Dakota, (E-7-80). Ms., SDARC.
- 1980b Investigation of the Bone Deposit at Adit Mine,
Fall River County, South Dakota, (E-13-80). Ms.
SDARC.
- 1980c Cultural Resources Survey of a Proposed North-
western Bell Telephone Transmission Line,
Southwestern Meade County, South Dakota, (N-9-80),
Ms., SDARC.
- 1983 Cultural Resources Monitoring of Backhoe Testing
for the Deerfield Dam Modification, Pennington
County, South Dakota, (H-4-83). Ms., USFS.
- Bury, Duane
1977a Geranium Park Timber Sale, ARR #SPF-5-77, (S-1-77).
Ms., USFS.
- 1977b Game Range #2 Prescribed Burn, SP-1-77, (S-3-77).
Ms., USFS.
- 1977c Mill Creek Timber Sale, ARR #SP-7-77, (S-4-77).
Ms., USFS.
- 1977d Game Range # 1 Prescribed Burn, ARR #SP-8-77,
(S-5-77). Ms., USFS.
- 1977e Beave Ridge Timber Sale, ARR #SP-9-77, (S-6-77).
Ms., USFS.
- 1977f Short Bear Timber Sale, SPF-10-77, (S-7-77).
Ms., USFS.
- 1977g Cement Dam Bug Sale, ARR #SPF-4-77, (S-8-77).
Ms., USFS.
- 1977h Robinson Fence, ARR #SPF-6-77, (S-9-77). Ms., USFS.
- 1977i Ice Box Bug Sale, SP-2-77, (S-10-77). Ms., USFS.
- 1977j Robinson Spring Development, ARR #SP-3-77,
(S-11-77). Ms., USFS.

- 1978a Spearfish District Ranger Sales - FY78, ARR #
SPF-9-78 (S-1-78). Ms., USFS.
- 1978b S-2-78. Ms., USFS.
- 1978c S-3-78.
- 1978d Boundary Timber Sale, SPF-13-78, (S-7-78).
Ms., USFS.
- 1978e Little Spearfish Controlled Burn, #SPF-7-78,
(S-8-78). Ms. USFS.
- 1978f Prospect Gulch Bug Sale, SPF-11-78, (S-9-78).
Ms., USFS.
- 1978g Tollgate Fence, # SPF-1-78, (S-10-78). Ms.,
USFS.
- 1978h Hungry Hollow Stock Dam, #SPF-2-78, (S-11-78).
Ms., USFS.
- 1978i Fish Hatchery Stock Dam, #SPF-3-78, (S-12-78).
Ms., USFS.
- 1978j Salvage Sale Area (Little Spearfish), FDR #134,
#SPF-4-78,(S-13-78). Ms., USFS.
- 1978k Rimrock Hiking Trail, #SP-5-78, (S-14-78). Ms.,
USFS.
- 1978l Gravel Pit, #SPF-12-78, (S-15-78). Ms. USFS.
- 1978m YCC Spring Development and Road Rehabilitation,
#SPF-8-78, (S-16-78). Ms. USFS.
- 1978n Timon and Rod and Gun Campgrounds, #SPF-10-78,
(S-17-78). Ms., USFS.
- 1979a Dry Gulch Timber Sale, (S-1-79). Ms., USFS.
- 1979b Fish Hatchery Timber Sale, (S-2-79). Ms., USFS.
- 1979c Rod and Gun Timber Sale, #SPF-2-79, (S-3-79).
Ms., USFS.
- 1979d YCC Spring Developments, (S-4-79). Ms., USFS.
- 1979e Crow Peak Timber Sale, (S-5-79). Ms., USFS.
- 1979f Stock Water Dams, (S-6-79). Ms., USFS.
- 1980a Stearns Park Aspen, #SPF-1-80, (S-1-80). Ms.,
USFS.
- 1980b YCC Projects - FY 1980, (S-2-80). Ms. USFS.

- 1980c Long Draw Timber Sale Reappraisal, (S-3-80).
Ms., USFS.
- 1980d Crooks Tower Timber Sale, (S-4-80). Ms., USFS.
- 1980e Wolbaum Core Drilling, (S-5-80). Ms., USFS.
- 1980f Thein Timber Sale, (S-6-80). Ms. USFS.
- 1980g Hoffman Mining Plan, (S-7-80). Ms., USFS.
- 1980h O'Brian Spring Waterline, (S-8-80). Ms., USFS.
- 1980i Lander Springs Prescribed Burn, (S-9-80). Ms. ,
USFS.
- 1981a Limestone Gravel Pit, (S-1-81). Ms., USFS.
- 1981b Mac's Camp Timber Sale, (S-2-81). Ms., USFS.
- 1981c Wildcat Water Development, (S-3-81). Ms., USFS.
- 1981d FDR 134-222 Jct., (S-4-81). Ms., USFS.
- 1982a Higgins Gulch Broadcast Burn, (S-2-82). Ms.,
USFS.
- 1982b Crooks Tower Addition Timber Sale, (S-3-82).
Ms., USFS.

Calabrese, F.A.

- 1972 Cross Ranch: A Study of the Variability on a
Stable Culture Tradition. PLAINS ANTHROPOLOGIST,
V. 17, N. 58, pt. 2, Memoir 9.

Caldwell, Warren W.

- 1966 The Black Partizan Site. Smithsonian Institution-
River Basin Surveys, PUBLICATIONS IN SALVAGE
ARCHAEOLOGY, 2.

Caldwell, Warren W. and Richard E. Jenson

- 1969 The Grand Detour Phase. Smithsonian Institution-
River Basin Surveys, PUBLICATIONS IN SALVAGE
ARCHAEOLOGY, 13.

Case, Lee

- 1949 LEE'S OFFICIAL GUIDE TO THE BLACK HILLS AND THE
BADLANDS. Case, Stugis.

Casey, Robert J.

- 1949 THE BLACK HILLS AND THEIR INCREDIBLE CHARACTERS.
Bobbs-Merrill Co., Inc.

Cash, Joseph H.

- 1959 A History of Lead, South Dakota, 1876-1900.
M.A. Thesis, University of South Dakota.
- 1973 WORKING THE HOMESTAKE. Iowa State University
Press.

Cassells, E. Steve

- 1979a Cultural Resource Investigations of the White Timber Sale, BHNF, South Dakota (C-9-80). Ms., USFS.
- 1979b Cultural Resource Investigations of the Cottonwood Timber Sale, BHNF, South Dakota (C-7-80). Ms., USFS.
- 1980a Cultural Resource Investigations of the Coon Hollow Timber Sale, Pactola District, BHNF, South Dakota (P-7-80). Ms., USFS.
- 1980b Cultural Resource Investigations of the Deadman Timber Sale, Pactola District, BHNF, South Dakota (P-5-80). Ms., USFS.
- 1980c Cultural Resource Investigations of the Baker Park Timber Sale, Pactola District, BHNF, South Dakota (P-1-80). Ms., USFS.
- 1980d Cultural Resource Investigations of the South Slate Timber Sale, Harney District, BHNF, South Dakota (H-1-80). Ms., USFS.
- 1980e Cultural Resource Investigations of the Medicine Creek Timber Sale, Harney District, BHNF, South Dakota (H-4-79). Ms., USFS.
- 1980f Cultural Resource Investigations of the Hawkwright Timber Sale, Custer District, BHNF, South Dakota (C-11-80). Ms., USFS.
- 1981a Cultural Resource Survey of the Accidental Timber Sale, Harney District, BHNF, South Dakota (H-6-81). Ms., USFS.
- 1981b Cultural Resource Survey of the U.S.A. Claims, Nemo District, BHNF, South Dakota (N-3-81). Ms., USFS.
- 1981c Cultural Resource Survey of the Dollar Claims, Harney District, BHNF, South Dakota (H-1-81). Ms., USFS.
- 1981d Supplementary Cultural Resource Survey of the Dollar Claims, Harney District, BHNF, South Dakota (H-3-81). Ms., USFS.
- 1981e Cultural Resource Survey of the Krugerrand Claims, Harney District, BHNF, South Dakota (H-2-81). Ms., USFS.

- 1981f Cultural Resource Survey of the Twin Sisters Timber Sale, Custer District, BHNF, South Dakota. Ms., USFS.
 - 1981g Cultural Resource Survey of the Bismarck Timber Sale, Custer District, BHNF, South Dakota. Ms., USFS.
 - 1981h Cultural Resource Survey of the Willow Creek Timber Sale, Custer District, BHNF (C-3-81). Ms., USFS.
 - 1981i Cultural Resource Survey of the Laughing Water Timber Sale, Custer District, BHNF, South Dakota. Ms., USFS.
 - 1981j Cultural Resource Survey of the Shekel Claims, Custer District, BHNF, South Dakota. Ms. USFS.
 - 1982a Cultural Resource Survey of the Hospital Gulch Timber Sale, Spearfish District, BHNF, South Dakota (S-5-82). Ms., USFS.
 - 1982b Spokane, South Dakota: An Assessment for Significance (P-4-83). Ms., USFS.
 - 1982c Cultural Resource Survey of the Yellow Thunder Camp, Pactola District, BHNF, South Dakota (P-3-82). Ms., USFS.
 - 1982d Cultural Resource Survey of the Bear Mountain Timber Sale, Custer District, BHNF, South Dakota (C-10-82). Ms., USFS.
 - 1983a Cultural Resource Survey of the Keystone Project Area (P-5-83). Ms., USFS.
 - 1983b THE ARCHAEOLOGY OF COLORADO. Johnson Books.
- Cassells, E. Steve and Paul V. Miller
- 1982a Cultural Resource Survey of the Icebox Timber Sale, Spearfish District, BHNF, South Dakota (S-4-82). Ms., USFS.
 - 1982b Cultural Resource Survey of the Calumet Timber Sale, Pactola District, BHNF, South Dakota (P-2-82). Ms., USFS.
 - 1982c Cultural Resource Survey of the Monument Timber Sale, Nemo District, BHNF, South Dakota (N-1-82). Ms., USFS.
 - 1982d Cultural Resource Survey of the Polo Peak Timber Sale, Nemo District, BHNF, South Dakota (N-2-82). Ms., USFS.

- 1982e Cultural Resource Survey of the Runkle and Tilford Timber Sales, Nemo District, BBNF, South Dakota (N-7-82). Ms., USFS.
- 1982f Cultural Resource Survey of the Maitland Timber Sale, Harney District, BBNF, South Dakota (H-1-82). Ms., USFS.
- 1982g Cultural Resource Survey of the Kinney Springs Timber Sale, Harney District, BBNF, South Dakota (H-12-82). Ms., USFS.
- 1982h Cultural Resource Survey of the Myersville Timber Sale, Harney District, BBNF, South Dakota (H-13-82). Ms., USFS.
- 1982i Cultural Resource Survey of the Crow's Nest Timber Sale, Elk Mountain District, BBNF, South Dakota (E-7-82). Ms., USFS.
- 1982j Cultural Resource Survey of the South Custer Timber Sale, Custer District, BBNF, South Dakota (C-11-82). Ms., USFS.
- 1982k Cultural Resource Survey of the Sanator Timber Sale, Custer District, BBNF, South Dakota (C-9-82). Ms., USFS.
- Cassells, E. Steve and Larry D. Agenbroad
1981 Cultural Resource Overview of the Nebraska National Forest. Ms., USFS.
- Chamblin, Thomas S.
1970 HISTORICAL ENCYCLOPEDIA OF WYOMING. Taylor Publishing Co.
- Chevance, Nicholas
1978a A Cultural Resources Survey for a Proposed Pole Line, Harney District, BBNF (H-29-78). Ms., USFS.
- 1978b Cultural Resources Survey in Fall River and Custer Counties, South Dakota for Union Carbide Corporation: Status of the Survey as of 26 August 1978 (E-21-78). Ms., SDARC.
- 1978c An Archaeological Survey in the Southern Black Hills (E-16-78). Ms., SDARC.

- 1979 Cultural Resources Survey in the Driftwood Canyon and Pass Creek Regions, Fall River and Custer Counties, South Dakota (E-11-79). Ms., USFS.
- 1980 Cultural Resources Survey in the Driftwood Canyon and Long Mountain Regions, Fall River County, South Dakota (E-14-80). Ms., USFS.
- Chicago, Burlington and Quincy Railroad
1904 MINES AND MINING IN THE BLACK HILLS. CB&Q.
- Chittenden, Hiram M.
1902 THE FUR TRADE OF THE FAR WEST. Francis P. Harper.
1935 THE AMERICAN FUR TRADE OF THE FAR WEST. Press of the Pioneers.
- Clark, Charles Badger
1927 WHEN HOT SPRINGS WAS A PUP. Hot Springs Kiwanis Club.
- Clawson, Marion
1951 UNCLE SAM'S ACRES. Dodd, Mead.
- Clowser, Don C.
1974 DAKOTA INDIAN TREATIES. Clowser, Deadwood.
- Cole, Col. Nelson
1883 Reports of Colonel Nelson Cole. IN: R.N. Scott, et al, A COMPILATION OF THE OFFICIAL RECORDS OF THE UNION AND CONFEDERATE ARMIES. Government Printing Office, Series I, 48, 1:366-83.
- Cotter, John L.
1937 The Occurance of Flints and Extinct Animals in Pluvial Deposits near Clovis, New Mexico, pt. IV, Report on the Excavations at the Gravel Pit in 1936. PROCEEDINGS, PHILADELPHIA ACADEMY OF NATURAL SCIENCES, V. 89:2-16.
- Crook County Historical Society
1979 HISTORY OF CROOK COUNTY. Crook County Historical Society.
- Clayton, Lee, W.B. Bickley and W.J. Stone
1970 Knife River Flint. PLAINS ANTHROPOLOGIST, V. 15, N. 50, pt. 1:282-90.
- Crossan, Gary
1981a Archaeological Survey of Ray French's Proposed Road on the Black Hills National Forest, Pennington County, South Dakota (P-4-81). Ms., USFS.
1981b An Intensive Archaeological Survey of the Proposed Drill Sites and Access Roads of the Hot Claim Group, Black Hills National Forest, Pennington County, South Dakota (H-5-81). Ms., USFS.

- 1982a An Intensive Archaeological Survey of the Drill Locations K-6, K-10, and K-16 and Access Road K of the Cambrian Deadwood Formation Project, Black Hills National Forest, Pennington County, South Dakota (H-2-82). Ms., USFS.
- 1982b An Intensive Archaeological Survey of the Baber Road Construction, Black Hills National Forest, Pennington County, South Dakota (H-6-82). Ms., USFS.
- Crossan, Gary and Frances Miller
1981 Archaeological Survey of a Proposed Placer Mine, Black Hills National Forest, Pennington County, South Dakota (P-1-81). Ms., USFS.
- Culbertson, T.A.
1952 JOURNAL OF AN EXPEDITION TO THE MAUVAISES TERRES AND THE UPPER MISSOURI IN 1850. Smithsonian Institution, Bulletin, Bureau of American Ethnology, N. 147:1-145.
- Curley, Edwin A.
1877 GUIDE TO THE BLACK HILLS. Rand, McNally and Co.
- Dalla, Rowene M.
1978a Preliminary Report on the Cultural Resources Survey of Eleventh Hour-Sawmill (S26) Timber Sale, Spearfish District, BHNF (S-6/6-78). Ms., USFS.
- 1978b A Report on the Cultural Resources Survey of Project 102 - - Drill Pads and Access Roads (N42), Nemo District, BHNF (N-32-78). Ms., USFS.
- 1978c Cultural Resources Survey of the Proposed Hill City, Wyoming State Line Buried Telephone Cable Route, Pennington County, South Dakota (H-16-78). Ms., USFS.
- 1978d Preliminary Report on the Cultural Resources Survey of Long Draw (C15) Timber Sale, Custer District, BHNF (C-24-78). Ms., USFS.
- 1978e Hay Draw Timber Sale, Custer District, BHNF (C-16-78). Ms., USFS.
- Darton, N.H.
1909 GEOLOGY AND WATER RESOURCES IN THE NORTHERN PORTIONS OF THE BLACK HILLS AND ADJOINING REGIONS IN SOUTH DAKOTA AND WYOMING. Professional Papers, U.S. Geological Survey, 65:1-105.

- Darton, N.H. and Sidney Paige
1925 CENTRAL BLACK HILLS FOLIO. U.S. Geological Society, Bulletin 219.
- Davis, E. Mott
1953 Recent Data from Two Paleo-Indian Sites on Medicine Creek, Nebraska. AMERICAN ANTIQUITY, V. 18, N. 4:380-86.
- Denig, Edwin Thompson
1969 FIVE INDIAN TRIBES OF THE UPPER MISSOURI. University of Oklahoma Press.
- Dodge, Lt. Col. Richard I.
1876 THE BLACK HILLS. James Miller.
- Dorin, Patrick C.
1978 THE MILWAUKEE ROAD EAST. The Superior Publishing Company.
- Douglas, W.A.
1948 PIONEER RAILROAD: THE STORY OF THE CHICAGO & NORTHWESTERN RAILROAD. Douglas, N.Y.
- Duthie, B.A.
1928 Timber, An Economic Resource of the Black Hills. BLACK HILLS ENGINEER, V. 16:16-20.
- Eckles, David
1978a Cultural Resource Survey of the Callan Spring Timber Sale (C-19-78). Ms., USFS.
1978b Cultural Resource Survey of Lake Road, Marble Quarry, North Custer, Streets, Thunderhead and Wabash Timber Sales in the Central Black Hills (C-10-78). Ms., USFS.
1978c Cultural Resource Survey of the Heeley Creek Timber Sale (H-22-78). Ms., USFS.
- Farmer, T.R. and K.A. Vagstad
1979 R-2027, Cultural Resources Survey on U.S. Forest Service Property Along the Proposed Custer - Edgemont 69/15 kV Transmission Line (C-15-79). Ms., USFS.
- Fatout, Paul
1956 AMBROSE BIERCE AND THE BLACK HILLS. University of Oklahoma Press.
- Fielder, Mildred
1957 Carbonate Camp. SOUTH DAKOTA HISTORICAL COLLECTIONS, N. 28.
1960 LAWRENCE COUNTY FOR THE DAKOTA TERRITORY CENTENNIAL. Seaton Publishing Co.

- 1964 RAILROADS OF THE BLACK HILLS. Superior Publishing Co.
- 1970 THE TREASURE OF HOMESTAKE GOLD. North Plains Press.
- 1972 THE CHINESE IN THE BLACK HILLS. Bonanza Trail Publishers.
- 1973 HIKING TRAILS OF THE BLACK HILLS. North Plains Press.
- Figgins, J.D.
1927 The Antiquity of Man in America. NATURAL HISTORY, V. 27, N. 3:229-39.
- Finerty, John E.
1966 WAR-PATH AND BIVOUAC: THE BIG HORN AND YELLOWSTONE CAMPAIGN. University of Nebraska Press.
- Firestone, Juanita
1980 A History of Pacer Mining Company. Ms., Leland Case Library for Western Historical Studies, Black Hills State College.
- Fishburne, Junius R.
1983 Correspondence to Jan Hammil, Director A.I.D. On file, SHPO, Pierre, S.D.
- Fite, Gilbert C.
1948 PETER NORBECK: PRAIRIE STATESMAN. University of Missouri Press.
- 1952 MOUNT RUSHMORE. University of Oklahoma Press.
- Fredlund, Dale E.
1976 Fort Union Porcellanite and Fused Glass: Distinctive Lithic Materials of Coal Burn Origin on the Northern Plains. PLAINS ANTHROPOLOGIST, V. 21:207-11.
- Frison, George C.
1974 The Application of Volcanic and Non-Volcanic Natural Glass Studies to Archaeology in Wyoming. IN: M. Wilson (ed.), Applied Geology and Archaeology: The Holocene History of Wyoming. GEOLOGICAL SURVEY OF WYOMING, REPORT OF INVESTIGATIONS, N. 10.

- 1978 PREHISTORIC HUNTERS OF THE HIGH PLAINS.
Academic Press.
- 1984 The Carter/Kerr-McGee Paleoindian Site:
Cultural Resource Management and Archaeological
Research. AMERICAN ANTIQUITY, V. 49, N. 2:
288-314.
- Frison, George C., Michael Wilson, and Diane J. Wilson
1976 Fossil Bison and Artifacts from an Early
Altithermal Period Arroyo Trap in Wyoming.
AMERICAN ANTIQUITY, V. 41, N. 1:28-57.
- Frison, George C. and Bruce A. Bradley
1980 FOLSOM TOOLS AND TECHNOLOGY AT THE HANSON SITE,
WYOMING. University of New Mexico Press.
- Frison, George C. and Dennis Stanford
1982 THE AGATE BASIN SITE: A RECORD OF THE PALEO-
INDIAN OCCUPATION OF THE NORTHWESTERN HIGH PLAINS.
Academic Press.
- Froiland, Sven G.
1978 NATURAL HISTORY OF THE BLACK HILLS. The Center
For Western Studies.
- Frost, Wilfred W.
1977a Big Bend Power Line (P-13-77). Ms., USFS.
1977b Castle Rock # 2 Timber Sale (C-1-77). Ms., USFS.
1977c Eighteen Mile Well Pipeline Cultural Resource
Inventory (C-2-77). Ms., USFS.
1977d Angontura Powerline (C-3-77). Ms., USFS.
1977e Bear Mountain Division Fence (C-5-77). Ms.,
USFS.
1977f Alkali Spring Water Development (C-6-77). Ms.,
USFS.
1977g Woods Well Pipeline (C-7-77). Ms., USFS.
1977h Herbert Draw Timber Sale.(C-8-77) Ms., USFS.
1977i North Airport Timber Sale (C-9-77). Ms. USFS.
1977j Garlock Timber Sale (C-10-77). Ms., USFS.
1977k Elliott Fence (C-11-77). Ms., USFS.

1977l Garlock # 1 Burn (C-12-77). Ms., USFS.
1977m Garlock # 2 Burn (C-13-77). Ms., USFS.
1977n Sourdough Dugouts (C-14-77). Ms., USFS.
1977o Bear Springs Water Development (C-15-77). Ms.,
USFS.
1977p Ward Reservoir Pipeline (C-16-77). Ms., USFS.
1977q McClure Flats Pipeline (C-17-77). Ms., USFS.
1977r Upper Lightning Timber Sale (C-18-77). Ms., USFS.
1978a Aspen Cutting, Custer County (C-1-78). Ms., USFS.
1978b Ruby Creek Timber Sale (C-2-78). Ms., USFS.
1978c Mattox Fence Line (Custer)(C-5-78). Ms., USFS.
1979a Burke Road (C-1-79). Ms., USFS.
1979b National Guard Camp (C-2-79). Ms., USFS.
1980a Dam Club # 1 (C-2-80). Ms., USFS.
1980b Sapien Cutting (P-4-80). Ms., USFS.
1980c Lamphere and Sons Water Transmission Line (C-3-80),
Ms., USFS.
1980d McClanahan Buried Telephone Line (C-4-80). Ms.,
USFS.
1980e Moose Buried Telephone Line (C-5-80). Ms., USFS.
1980f Salmon No. 1 and 2 Test Drill for Minerals
(C-6-80). Ms., USFS.
1980g Tim Kirk Water Development Project (C-8-80).
Ms., USFS.
1980h Mining Claim # 9 (C-14-80). Ms., USFS.
1980i McKnight Pipeline (C-15-80). Ms., USFS.
1980j Patrick L. Donahue Special Use Road (C-16-80).
Ms., USFS.

- 1980k Mattox Special Use Road (C-17-80). Ms., USFS.
- 1982a Rifle Pit Fence (C-1-82). Ms., USFS.
- 1982b S.A.B.E. # 1 and # 2 Miles (C-2-82). Ms.,
USFS.
- 1982c Mon-Dak # 16 Mine (C-3-82). Ms., USFS.
- 1982d Happy Jack Mine (C-4-82). Ms., USFS.
- 1982e Custer Mountain Lode (C-5-82). Ms., USFS.
- 1982f Gurney Well Pipeline, Lyman Draw Extension,
and West Pass Creek Extension (C-6-82). Ms.,
USFS.
- 1982g Sourdough Timber Sale Unit # 23 (C-7-82). Ms.,
USFS.
- 1982h Victory Lode (C-8-82). Ms., USFS.
- 1983a Hopkins Witch Timber Sale, Sec. 35 (C-1-83).
Ms., USFS.
- 1983b Green Earth Placer Gold Mining (C-2-83). Ms.,
USFS.
- 1983c Rose Quartz Mine (C-3-83). Ms., USFS.
- 1983d Bostwick Mine (C-4-83). Ms., USFS.

Gage, William C.

- 1901 ILLUSTRATED GUIDE TO THE BLACK HILLS AND PICTUR-
ESQUE SOUVENIR OF HOT SPRINGS, SOUTH DAKOTA. Hot
Springs Commercial Club.

Gillihan, James E.

- 1975 N-30-75. Ms., USFS.
- 1976a N-14-76. Ms., USFS.
- 1976b P-10-76. USFS.
- 1976c Archaeological and Historical Investigations on
the Black Hills National Forest Dutch Flats
Control Area (S-13-76). Ms., USFS.

Girouard, Terry A.

- 1983a A Cultural Resource Inventory Study of the Highway 18 Batch Plant Cement Batch Plant Site in Fall River County, South Dakota (E-5-83). Ms., USFS.
- 1983b A Cultural Resource Inventory Study of the # 1 USA-Ladd Well Pad and Access Road in Fall River County, South Dakota (E-8-83). Ms., USFS.
- 1983c A Cultural Resource Inventory Study of the Amberex South Dakota Project Seismic Lines SA, SB, SC and SD in Custer and Fall River Counties, South Dakota (E-9-83). Ms., USFS.
- 1983d A Cultural Resource Inventory Study of the Bobcat Project Test Drill Sites and Access Roads in Pennington County, South Dakota (N-7-83). Ms., USFS.

Goetzmann, William H.

- 1966 EXPLORATION AND EMPIRE: THE EXPLORER AND SCIENTIST IN THE WINNING OF THE AMERICAN WEST. Alfred A. Knopf, Inc.

Goodwin, Lawrence

- 1978a Rifle Pit Fence (C-3-78). Ms., USFS.
- 1978b Aric Lode Mining Claim Road (C-4-78). Ms., USFS.

Graves, H.I.

- 1899 BLACK HILLS FOREST RESERVE. Annual Report, U.S. Geological Survey, 19:67-164.

Greene, Jerome A.

- 1982 SLIM BUTTES, 1876; AN EPISODE OF THE GREAT SIOUX WAR. University of Oklahoma Press.

Gries, J.P. and E.L. Tullis

- 1955 The Geologic History of the Black Hills. IN: NORTH DAKOTA GEOLOGICAL SOCIETY GUIDEBOOK, South Dakota Black Hills Field Conference.

Grinnell, George Bird

- 1915 THE FIGHTING CHEYENNE. Charles Scribner's Sons.
- 1923 THE CHEYENNE INDIANS. Yale University Press (2 vol.).

- Groenfeldt, David
1978 Cultural Resource Survey of the Mayo Timber Sale (C-18-78). Ms., USFS.
- Groenfeldt, David and Linda Popelish
1978 Cultural Resources Survey of the Wild Irishman Timber Sale (P-4-78). Ms., USFS.
- Haberman, Thomas W.
1977 Cultural Resources Survey of the Ward Draw Timber Sale (S24), Lawrence County, South Dakota (S-2-77). Ms., USFS.
- Hafen, LeRoy R.
1965- THE MOUNTAIN MEN AND THE FUR TRADE OF THE
1972 FAR WEST. Arthur Clark Co.
- Hafen, LeRoy and Ann Hafen
1961 POWDER RIVER CAMPAIGNS AND SAWYERS EXPEDITION OF 1865. Arthur Clark Co.
- Hafen, LeRoy and F.M. Young
1938 FORT LARAMIE AND THE PAGEANT OF THE WEST, 1834-1890. Arthur Clark Co.
- Haines, Francis
1976 THE PLAINS INDIANS. Thomas Y. Crowell Co.
- Hamilton, Earl
1977a Wyoming # 1 Timber Sale (E-1-77). Ms., USFS.
1977b Powerline Timber Sale (E-2-77). Ms. USFS.
1977c Pzinski Timber Sale (E-3-77). Ms., USFS.
1977d Deer Spring Timber Sale (E-4-77). Ms., USFS.
1977e Antelope Draw Timber Sale (E-5-77). Ms. USFS.
1977f Hell Canyon Pine Control (E-6-77). Ms. USFS.
1977g Sherwood Canyon Fence (E-7-77). Ms., USFS.
1977h Boles Canyon Road Construction (E-8-77). Ms., USFS.
1977i Moon Campground (E-9-77). Ms., USFS.
1977j Bear Run Reservoir (E-10-77). Ms., USFS.
1977k Jewel Cave Fence (E-11-77). Ms., USFS.

1977l Redbird Draw Timber Sale (E-12-77). Ms., USFS.
1977m Redbank Spring Campground (E-13-77). Ms., USFS.
1977n Baltzly Spring Fence (E-14-77). Ms., USFS.
1977o Barrel Spring (E-15-77). Ms., USFS.
1977p Beaver Creek Campground (E-16-77). Ms., USFS.
1977q Boggy Timber Sale (E-17-77). Ms., USFS.
1977r Mud Lake Timber Sale (E-18-77). Ms., USFS.
1977s Tepee Campground (E-19-77). Ms., USFS.
1977t Highway 16 Timber Sale # 5 (E-20-77). Ms., USFS.
1977u Middle Thompson Timber Sale (E-21-77). Ms., USFS.
1977v Surveyor's Hill Slash Reduction (E-22-77). Ms. USFS.
1977w Baseline Timber Sale (E-23-77). Ms., USFS.
1977x Highway 16 No. 6 Timber Sale (E-24-77). Ms. USFS.
1977y Highway 16 # 7 Timber Sale (E-25-77). Ms., USFS.
1978a Pass Creek Road Construction (E-1-78). Ms., USFS.
1978b Elk Mountain Pine Tree Control (E-2-78). Ms., USFS.
1978c Pass Creek Road, Wintermute, Richardson, Mann
Road and Freeland Basin Prescribed Burning Project
(E-3-78). Ms., USFS.
1978d Rangeland Pitting (E-4-78). Ms., USFS.
1978e Hell Canyon Division Fence (E-5-78). Ms., USFS.
1978f Stateline Fence (E-6-78). Ms., USFS.
1978g Thompson and White Spring Development (E-7-78).
Ms., USFS.
1978h Upper Redbird Compartment Timber Sales (E-8-78).
Ms., USFS.
1978i Dry Beaver # 2 Timber Sale (E-9-78). Ms., USFS.

1978j Hardy Timber Sale (E-10-78). Ms., USFS.
1978k Buckhorn # 2 Timber Sale (E-11-78). Ms., USFS.
1978l Boles Canyon Road # 2 (E-13-78). Ms., USFS.
1978m Rogers Timber Sale (E-14-78). Ms., USFS.
1979a Keller Timber Sale (E-1-79). Ms., USFS.
1979b Tepee Well # 2 Pipeline (Route Change)(E-2-79).
Ms., USFS.
1979c Sled Canyon Timber Sale (E-3-79). Ms., USFS.
1979d O-Neil Pass Ranger Sales (E-4-79). Ms. USFS.
1979e Howell Timber Sale (E-5-79). Ms., USFS.
1979f Deadhorse Flats Pine Encroachment Control
(E-6-79). Ms., USFS.
1980a Deadhorse Flats # 2 (Pine Encroachment Control)
(E-1-80). Ms., USFS.
1980b Agate Mine (M & B)(E-2-80). Ms., USFS.
1980c Roby Canyon Division Fences (E-3-80). Ms., USFS.
1980d Redbird Fence (E-4-80). Ms., USFS.
1980e Hell Canyon Phoneline (E-5-80). Ms., USFS.
1980f Redbird Power Line (E-6-80). Ms., USFS.
1980g Gillette Timber Sale (E-8-80). Ms., USFS.
1980h Lower 40 Pipeline and Tank (Limited Project)
(E-9-80). Ms., USFS.
1980i Mountain Mahogany Rejuvenation (E-10-80). Ms.,
USFS.
1980j O'Neil Pass Powerline (E-11-80). Ms., USFS.
1980k Briggs Spring Improvement (E-12-80). Ms., USFS.
1980l Preacher Spring Timber Sale (E-17-80). Ms., USFS.
1980m Johnson Timber Sale (E-18-80). Ms., USFS.

- 1981a Sherwood Spring Range Improvement (E-1-81).
Ms., USFS.
- 1981b Seismic Station (E-2-80). Ms., USFS.
- 1981c Hell Canyon Phoneline # 2 (E-3-81). Ms., USFS.
- 1981d Blacktail Improvement (E-4-81). Ms., USFS.
- 1981e Turkey Guzzler # 1 (E-5-81). Ms., USFS.
- 1981f Tepee Fence Project (E-6-81). Ms., USFS.
- 1981g Blind Park Timber Sale (E-7-81). Ms. USFS.
- 1982a Crowsnest Timber Sale (Roads)(E-1-82). Ms., USFS.
- 1982b Robinson Flats Fences (E-2-82). Ms., USFS.
- 1982c Middle Thompson Project (E-4-82). Ms., USFS.
- 1982d Schenks Well # 1 Pipeline (E-5-82). Ms., USFS.
- 1982e Buckspring Timber Sale (E-8-82). Ms., USFS.
- 1983a Ken's Seep (E-1-83). Ms., USFS.
- 1983b Hollenbeck's Dam (E-2-83). Ms., USFS.
- 1983c Wells Timber Sale (E-3-83). Ms., USFS.
- 1983d Pilger Mountain Mahogany Burn (E-4-83). Ms.,
USFS.
- 1983e Piper Drift Fence(E-6-83). Ms., USFS.
- 1983f Moonshine Spring Project (E-7-83). Ms., USFS.
- Hammer, Marion
1977a North Top Timber Sale (B-1-77). Ms., USFS.
- 1977b Melquist Timber Sale (B-2-77). Ms., USFS.
- Hammil, Jan
1983 Correspondence to Junius R. Fishburne, SHPO,
Pierre, S.D., on file S.D.S.H.P.O. office.
- Hannus, Adrien
1984 The Lange/Ferguson Site, An Event of Clovis
Mammoth Butchery with the Associated Bone Tool
Technology: The Mammoth and its Track. Ph.D.
Dissertation, University of Utah.

- Hanson, Charles E., Jr.
 1965 The Fort Pierre - Fort Laramie Trail. THE MUSEUM OF THE FUR TRADE QUARTERLY, V. 1, N. 2:3-7.
- Hart, Herbert M.
 1967 PIONEER FORTS OF THE WEST. Superior Publishing Company.
- Harvey, A.E.
 1979 Oneota Culture in Northwestern Iowa. REPORT 12, OFFICE OF THE IOWA STATE ARCHAEOLOGIST.
- Hassrick, Royal B.
 1964 THE SIOUX: LIFE AND CUSTOMS OF A WARRIOR SOCIETY. University of Oklahoma Press.
- Haug, James K.
 1976 An Archaeological Survey along the Proposed Route of a Buried Telephone Cable: Black Hills National Forest, 1976 (S-14-76). Ms., SDARC.
- 1977a Archaeological Survey in the Vicinity of Red and Craven Canyons, Fall River County, South Dakota (E-23-77). Ms., SDARC.
- 1977b Cultural Resources Survey in the Southern Black Hills, South Dakota (E-28-77). Ms., SDARC.
- 1977c Cultural Resources Survey of the Proposed U.S. Highway 18 Right-of-Way between Edgemont and Minnekahta, South Dakota (C-22-78). Ms., SDARC.
- 1979 Archaeological Test Excavations at Long Mountain, South Dakota (E-10-79). Ms., SDARC.
- Hawthorne, Richard
 1980 Deer Creek Prescribed Burn Fuel Break (P-6-80). Ms., USFS.
- 1981 Lien Special Use Road (P-5-81). Ms., USFS.
- 1982 Gunderson Water Reservoir and Pipeline (P-1-82). Ms., USFS.
- 1983 Koopman Burn (P-1-83). Ms., USFS.
- Hayden, F.V.
 1868 GEOLOGICAL REPORT OF THE EXPLORATIONS OF THE YELLOWSTONE AND MISSOURI RIVERS UNDER THE DIRECTION OF CAPT. W.F. RAYNOLDS IN 1859-60. Government Printing Office.

- 1869 Address on the Black Hills. PROCEEDINGS OF THE AMERICAN PHILOSOPHICAL SOCIETY, V. 10:322-26.
- Haynes, C. Vance
1974 Archaeological Geology of Some Selected Paleo-Indian Sites. IN: C.C. Black (ed.), History and Prehistory of the Lubbock Lake Site. THE MUSEUM JOURNAL, V. 15. West Texas Museum Association.
- 1980 Paleoindian Charcoal from Meadowcroft Rockshelter: Is Contamination a Problem? AMERICAN ANTIQUITY, V. 45, N. 3:582-87.
- Hebard, Grace Raymond and E.A. Brininstool
1922 THE BOZEMAN TRAIL. Arthur H. Clark Co.
- HelgevoId, Mary Keepers
1981 A History of South Dakota Archaeology. SPECIAL PUBLICATION OF THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY, N. 3.
- Hendrickson, Gordon Olaf, ed.
1977 PEOPLING THE HIGH PLAINS: WYOMING'S EUROPEAN HERITAGE. Wyoming State Archives and Historical Department.
- Henning, D.R.
1970 Development and Interrelationships of Oneota Culture in the Lower Missouri River Valley. MISSOURI ARCHAEOLOGIST, V. 32:1-180.
- Henning, E.R.P.
1981 Great Oasis and the Middle Missouri Tradition. IN: Zimmerman and Stewart (eds.), The Future of South Dakota's Past. SPECIAL PUBLICATIONS OF THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY, N. 2.
- Hill, James N.
1970 Broken K Pueblo: Prehistoric Social Organization in the American Southwest. ANTHROPOLOGICAL PAPERS OF THE UNIVERSITY OF ARIZONA, N. 18.
- Hodge, Fredrick W. (ed.)
1912 Handbook of American Indians North of Mexico. BULLETIN OF AMERICAN ETHNOLOGY, BULLETIN 30, pts. 1, 2.
- Hoffman, Arthur F.C. and Theodore Krueger
1949 Forestry in the Black Hills. YEARBOOK OF AGRICULTURE, U.S. Department of Agriculture.
- Hoffman, Robert S. and J.K. Jones
1970 Influence of Late-Glacial and Post-Glacial Events on the Distribution of Recent Mammals on the Northern Great Plains. IN: Dort and Jones (eds.), PLEISTOCENE AND RECENT ENVIRONMENTS OF THE CENTRAL GREAT PLAINS. University of Kansas, Dept. of Geology, Special Publications, N. 3.

- Hoig, Stan
1961 THE SAND CREEK MASSACRE. University of Oklahoma Press.
- Hollow, Robert C. and Douglas R. Parks
1980 Studies in Plains Linguistics. IN: R. Wood and M. Liberty (eds.), ANTHROPOLOGY ON THE GREAT PLAINS. University of Nebraska Press.
- Hood, A.B.
1928 Logging Operations in the Black Hills. BLACK HILLS ENGINEER, V. 16:20-32.
- Horse, Ella Mae
1982 Resolution No. 19-82-LTN: Nomination of the Yellow Thunder Camp to the National Register of Historic Places. National Congress of American Indians, Washington, D.C.
- Hovey, E.O.
1900 Wind Cave of South Dakota. SCIENTIFIC AMERICAN SUPPLEMENT, V. 44:20458-20459.
- Hughes, Jack T.
1948 River Basin Survey field records. On file, SDARC.

1949 Investigations in Western South Dakota and Northwestern Wyoming. AMERICAN ANTIQUITY, V. 14, N. 4:266-327.
- Hughes, Jack T. and Theodore E. White
n.d. The Long Site: An Ancient Camp in Southwestern South Dakota. Ms., Midwest Archaeological Center, Lincoln.
- Hughes, Richard B.
1957 PIONEER YEARS IN THE BLACK HILLS. Arthur H. Clark Co.
- Hunt, B.J. (ed.)
1974 BREVET'S SOUTH DAKOTA HISTORICAL MARKERS. Brevet Press.
- Hurt, Wesley R., Jr.
1952 Report on Investigation of the Scalp Creek Site, 39GR1, and the Ellis Creek Site, 39GR2, Gregory County, South Dakota. ARCHAEOLOGICAL STUDIES CIRCULAR, N. 4, Pierre.
- Husted, Wilfred M.
1969 Bighorn Canyon Archaeology. SMITHSONIAN INSTITUTION, RIVER BASIN SURVEYS PUBLICATIONS IN SALVAGE ARCHAEOLOGY, N. 12.

- Hyde, George E.
 1937 RED CLOUD'S FOLK. University of Oklahoma Press.
- 1956 A SIOUX CHRONICLE. University of Oklahoma Press.
- 1961 SPOTTED TAIL'S FOLK; A HISTORY OF THE BRULE SIOUX. University of Oklahoma Press.
- Irving, Washington
 1836 ASTORIA: OR ANECDOTES OF AN ENTERPRISE BEYOND THE ROCKY MOUNTAINS. Carey, Lea and Blanchard (2 vols.).
- Irving, W.N. and C.R. Harington
 1973 Upper Pleistocene Radiocarbon-dated Artefacts from the Northern Yukon. SCIENCE, V. 179, N. 407:335-40.
- Irwin-Williams, Cynthia, Henry Irwin, George Agogino and C. Vance Haynes
 1973 Hell Gap: Paleo-Indian Occupation on the High Plains. PLAINS ANTHROPOLOGIST, V. 18, N. 59: 40-53.
- Isaman, Michael O.
 1977a Sixmile # 2 Timber Sale (H-1-77). Ms., USFS.
- 1977b Deerfield-Horsethief Allotment Boundary Fence (H-2-77). Ms., USFS.
- 1977c Redbird Canyon Gravel Quarry (H-3-78). Ms., USFS.
- 1977d Bushy Draw-Patterson Allotment Boundary Fence (H-4-77). Ms., USFS.
- 1977e Soholt Tree Planting Site (H-5-77). Ms., USFS.
- 1977f Slate Creek Tree Planting Site (H-6-77). Ms. USFS.
- 1977g Oreville Campground Development (H-8-77). Ms., USFS.
- 1977h Mt. City Picnic Area Development (H-9-77). Ms., USFS.
- 1977i Ditchcreek Campground Improvement (H-10-77). Ms., USFS.
- 1977j Custer Trails Campground (H-11-77). Ms., USFS.
- 1977k Black Fox Campground (H-12-77). Ms., USFS.

1977l Whitetail Campground (H-13-77). Ms., USFS.
1977m Dutchman Campground (H-14-77). Ms., USFS.
1977n South Shore Picnic Area (H-15-77). Ms., USFS.
1977o Castle Peak Campground (H-16-77). Ms., USFS.
1977p Horsethief Lake Campground (H-17-77). Ms., USFS.
1977q Elkhorn Spring Picnic Area (H-18-77). Ms., USFS.
1977r Newton Lake Picnic Area (H-19-77). Ms., USFS.
1978a Three Forks Intersection Reconstruction (H-1-78).
Ms., USFS.
1977b Development of 4 Stock Dams (H-2-78). Ms., USFS.
1978c Bear Gulch Timber Sale (H-3-78). Ms., USFS.
1978d Spring Creek Timber Sale Add-On (H-5-78). Ms.,
USFS.
1978e Newton Fork # 24 Timber Sale (H-7-78). Ms., USFS.
1978f West Tigerville Timber Sale (H-8-78). Ms., USFS.
1978g Lena Timber Sale (H-9-78). Ms., USFS.
1978h Installation of Underground Telephone Cable
(H-10-78). Ms., USFS.
1978i Improvement of Old Road (H-11-78). Ms., USFS.
1978j Gillette Timber Sale # 2 (H-13-78). Ms., USFS.
1978k Pacer Mining - Spring Creek (H-14-78). Ms., USFS.
1978l Reconstruction of Rd. 243 (H-15-78). Ms., USFS.
1978m Installation of Underground Telephone Cable
(H-18-78). Ms., USFS.
1978n Jan Timber Sale (H-24-78). Ms., USFS.
1978o New Road Construction (H-30-78). Ms., USFS.

- 1979a Boundary Fence (H-1-79). Ms., USFS.
- 1979b Anderson Special Use Road (H-2-79). Ms., USFS.
- 1979c Drift Fence (T1N,R3E, Sec. 29)(H-3-79). Ms., USFS.
- 1979d Smith Mountain Timber Sale (H-5-79). Ms., USFS.
- 1979e Gilette Timber Sale # 1 (H-6-79). Ms., USFS.
- 1979f Lyons Special Use Road (H-7-79). Ms., USFS.
- 1979g Robert Johnson's Special Use Road (H-8-79). Ms.,
USFS.
- 1979h Underground Power Cable (H-10-79). Ms., USFS.
- 1980a Northwestern Bell Tigerville Buried Telephone
Cable (H-2-80). Ms., USFS.
- 1980b Bittersweet Timber Sale (H-3-80). Ms., USFS.
- 1982a Construction of 5 Stock Dams (H-3-82). Ms., USFS.
- 1982b New Road Construction - Approximately 3/4 Mile
Long (H-4-82). Ms., USFS.
- 1982c Underground Water Line - Approximately 1 Mile
Long (H-5-82). Ms., USFS.
- 1982d Construction of Fire Line for Prescribed Burn
(H-9-82). Ms., USFS.
- 1982e Construction of Fire Line for Prescribed Burn
(H-10-82). Ms., USFS.
- 1982f Construction of Fire Line for Prescribed Burn
(H-11-82). Ms., USFS.
- 1983a Removal of Slate Rock for Commercial Use (H-2-83).
Ms., USFS.
- 1983b Tigerville Camp Thinning Area Contract (H-5-83).
Ms., USFS.
- 1983c Lemming Draw Thinning Contract (H-6-83). Ms.,USFS.
- 1983d Test Drilling (Mining)(H-7-83). Ms., USFS.

Ives, J.C.
1962

Mill Creek Pottery. JOURNAL OF THE IOWA ARCHAEO-
LOGICAL SOCIETY, V. 11, N. 3.

- Jackson, Donald
 1962 LETTERS OF THE LEWIS AND CLARK EXPEDITION WITH
 RELATED DOCUMENTS, 1783-1854. University of
 Illinois Press.
- 1966 CUSTER'S GOLD: THE UNITED STATES CAVALRY
 EXPEDITION OF 1874. Yale University Press.
- Jackson, William T.
 1952 WAGON ROADS WEST: A STUDY OF FEDERAL ROAD SURVEYS
 AND CONSTRUCTION IN THE TRANS-MISSISSIPPI WEST,
 1846-1869. University of California Press.
- 1966 Dakota Tin: British Investors at Harney Peak
 1880-1900. NORTH DAKOTA HISTORY, V. 29:336-94.
- Jennewein, J. Leonard
 1962 BLACK HILLS BOOKTRAILS. Dakota Territory
 Centennial Commission and Dakota Wesleyan
 University.
- Jennewein, J. Leonard and J. Boorman (eds.)
 1961 DAKOTA PANORAMA. Midwest Beach Publishing Co.
- Jenney, W.P.
 1876 REPORT ON THE MINERAL WEALTH, CLIMATE AND
 RAINFALL, AND NATURAL RESOURCES OF THE BLACK
 HILLS OF DAKOTA. Executive Document, U.S.
 Senate, 44th Congress, 51:1-71. Government
 Printing Office.
- Jennings, Jesse D.
 1968 PREHISTORY OF NORTH AMERICA. McGraw-Hill Book
 Co.
- Johnson, Roger
 1979 Rockerville Flume (P-18-79). Ms., USFS.
- Kappler, Charles J. (ed.)
 1904 INDIAN AFFAIRS: LAWS AND TREATIES. Government
 Printing Office (2 vols.).
- Karolevitz, Robert
 1975 CHALLENGE: THE SOUTH DAKOTA STORY. Brevet Press.
- Kellar, Kenneth C.
 1972 SETH BULLOCK: FRONTIER MARSHAL. North Plains
 Press.
- Keller, Steve
 1978 Cultural Resources Survey for the Johns-Manville
 Corporation (Project 102), Meade and Pennington
 Counties, South Dakota (H-31-78, N-34-78). Ms.,
 USFS.

- Killeter, P.D.
1913 The National Forests of the Black Hills. PAHASAPA
QUARTERLY, V. 2:84-87.
- King, Charles
1964 CAMPAIGNING WITH CROOK. University of Oklahoma
Press.
- King, Philip B. and Helen M. Beikman
1974 GEOLOGIC MAP OF THE UNITED STATES. U.S. Geological
Survey.
- Kingsbury, George W.
1915 HISTORY OF DAKOTA TERRITORY AND SOUTH DAKOTA,
ITS HISTORY AND ITS PEOPLE. S.J. Clark
Publishing Co. (5 vols.).
- Kivett, Marvin F.
1952 Woodland Sites in Nebraska. NEBRASKA STATE
HISTORICAL SOCIETY PUBLICATIONS IN ANTHROPOLOGY,
N. 1.
- Kivett, Marvin F. and Richard E. Jensen
1976 Archaeological Investigations at the Crow Creek
Site (39BF11), Fort Randall Reservoir Area,
South Dakota. NEBRASKA STATE HISTORICAL SOCIETY
PUBLICATIONS IN ANTHROPOLOGY, N. 7.
- Klock, Irma
1975 YESTERDAY'S GOLD CAMPS AND MINES IN THE
NORTHERN BLACK HILLS. Klock, Lead.
- 1979 ALL ROADS LEAD TO DEADWOOD. North Plains Press.
- Koller, Joe
1949 Minnesela Days. SOUTH DAKOTA HISTORICAL
COLLEC IONS, V. 24.
- Kovats, Julius
1978 Black Hills Gold Mining, 1876-1935: Toward a
Time - Space Model. Ph.D. Dissertation,
University of Oklahoma.
- Krause, Herbert and Gary Olson
1974 PRELUDE TO GLORY. Brevet Press.
- Kyner, James H.
1960 END OF TRACK. University of Nebraska Press.

- Lamar, Howard R.
1956 DAKOTA TERRITORY, 1861-1889: A STUDY OF FRONTIER POLITICS. Yale University Press.
- Lass, Barbara
1977 Archaeological Survey of the Boulder Park Corridor, Lawrence County, S.D. (N-6-82). Ms., USFS.
- 1981 South Dakota Prehistory: An Overview. IN: Zimmerman and Stewart (eds.), The Future of South Dakota's Past. SPECIAL PUBLICATION OF THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY, N. 2.
- Laughlin, C.F.
1940 Black Hills Ponderosa Pine - A Valuable Source of Raw Material. BLACK HILLS ENGINEER, V. 26: 203-19.
- Laughlin, W.S.
1967 Human Migration and Permanent Occupation in the Bering Strait Area. IN: D. Hopkins (ed.), THE BERING LAND BRIDGE. Stanford University Press.
- Larson, Thomas A.
1981 HISTORY OF WYOMING. University of Nebraska Press.
- Larson, Thomas K., Mona C. Thompson, Skylar S. Scott, Paul H. Sanders, Keith H. Dueholm
1983 Cultural Resource Inventory Report for the Huett Springs, Manly Hill, Sand Creek, Solomon Gulch, South Pactola and Rockerville West Timber Sales, Black Hills National Forest (2 vols.) (S-3-83, B-1-83, B-2-83, H-3-83, P-2-83, P-3-83). Ms., USFS.
- Lawrence County Historical Society
1981 SOME HISTORY OF LAWRENCE COUNTY. State Publishing Company, Pierre.
- Lazio, Joseph G.
1978a Cultural Resources Reconnaissance of Two Proposed Powerlines in Pennington County, South Dakota (P-11-78). Ms., USFS.
- 1978b Cultural Resources Reconnaissance of a Proposed Class E Special Use Road in Pennington County, South Dakota (H-9-79). Ms., USFS.

- 1978c Cultural Resources Reconnaissance of Two Proposed Powerlines in Pennington County, South Dakota (H-27-78). Ms., USFS.
- 1978d Cultural Resources Reconnaissance of a Proposed Powerline in Pennington County, South Dakota (C-25-78). Ms., USFS.
- 1979 Cultural Resources Survey of Five Proposed Exploratory Drill Holes in the Nemo District, Black Hills National Forest (N-13-79). Ms., USFS.
- 1980a Cultural Resources Survey of the Sukstorf and Swanson Buried Cable Easements in the Black Hills National Forest, South Dakota (H-4-80, N-13-80).
- 1980b Cultural Resources Survey of the Swanson Electric Power Line, Harney District, Black Hills National Forest, Pennington County, South Dakota (H-5-80). Ms., USFS.
- 1980c Cultural Resources Inventory and Mitigative Reconnaissance for the Seven Mile Project, Custer County, Black Hills National Forest (C-13-80). Ms., USFS.
- Lee, Robert (ed.)
1976 GOLD, GALS, GUNS, GUTS. South Dakota Bicentennial Commission and Deadwood-Lead Centennial, Inc.
- Leedy, Carl
1961 GOLDEN DAYS IN THE BLACK HILLS. Holmgren's.
- Legard, Carol and Sylvia Miller
1982 An Archaeological Survey of Four Timber Sales in the Northern Black Hills National Forest, South Dakota, 1982 (S-1-83, S-2-83, N-1-83, N-2-83). Ms., USFS. (2 vols.).
- Lehmer, Donald J.
1970 Climate and Culture History in the Middle Missouri Valley. IN: Dort and Jones (eds.), PLEISTOCENE AND RECENT ENVIRONMENTS OF THE CENTRAL GREAT PLAINS. University of Kansas, Department of Geology, Special Publications, N. 3.
- 1971 Introduction to Middle Missouri Archaeology. ANTHROPOLOGICAL PAPERS, N. 1, National Park Service.
- Libbey, O.C.
1973 THE ARIKARA NARRATIVE OF THE CAMPAIGN AGAINST THE HOSTILE INDIANS, JUNE, 1876. Sol Lewis.

Lincoln, Francis Church, et al
1937 The Mining Industry of South Dakota. SOUTH DAKOTA
SCHOOL OF MINES BULLETIN # 17.

Lindstrom, Carl

- 1976a Boulder Park Bug Sale (N-6-76). Ms., USFS.
- 1976b Bear Den Bug Sale (N-7-76). Ms., USFS.
- 1976c Black Fox Bark Beetle Sale (N-15-76). Ms., USFS.
- 1977a Silver Creek Flume (N-1-77). Ms., USFS.
- 1977b Chicken Timber Sale (N-2-77). Ms., USFS.
- 1977c Black Fox Timber Sale (N-3-77). Ms., USFS.
- 1977d Elk Creek Timber Sale (N-4-77). Ms., USFS.
- 1977e Pine Timber Sale (N-5-77). Ms., USFS.
- 1977f Erickson Road Flood Rehabilitation Project
(N-6-77). Ms., USFS.
- 1977g Greens Gulch Timber Sale (N-7-77). Ms., USFS.
- 1977h Crystal Mountain Burn (N-8-77). Ms., USFS.
- 1977i East Rapid-Silver City Allotment Division Fence
(N-9-77, P-11-77). Ms., USFS.
- 1977j Bulldog Management Area (Gudat Timber Sale)
(N-10-77). Ms., USFS.
- 1977k Red Hill Bark Beetle and Timber Sale (N-11-77).
Ms., USFS.
- 1977l Boxelder Job Corps Center Road Improvement
(FDR#146)(N-12-77). Ms., USFS.
- 1977m Galena Cemetary Bark Beetle Project (N-13-77).
Ms., USFS.
- 1977n Strawberry Hill Bark Beetle (N-14-77). Ms., USFS.
- 1978a Green Mountain Erskine Gulch Fuel Management Area
(N-1-78). Ms., USFS.
- 1978b Galena Park Creek Bark Beetle Sale (N-2-78). Ms.,
USFS.

1978c Carr's Bug Sale (N-3-78). Ms., USFS.

1978d Stagebarn Timber Sale (N-4-78). Ms., USFS.

1978e Black Hills Electric Co-op (Dumont Substation) (N-5-78). Ms., USFS.

1978f Keown Power Distribution Line (N-6-78). Ms., USFS.

1978g McKee Division Fence (N-7-78). Ms., USFS.

1978h Terry Peak Electronics Site (N-8-78). Ms., USFS.

1978i Roubaix Lake Control Burn (N-9-78). Ms., USFS.

1978j Mt. Roosevelt Monument (N-10-78). Ms., USFS.

1978k Roubaix Lake Campground and Swimming Area (N-11-78). Ms., USFS.

1978l Boxelder Forks Campground (N-12-78). Ms., USFS.

1978m Strawberry Hill Campground (N-13-78). Ms., USFS.

1978n Custer Crossing Campground (N-14-78). Ms., USFS.

1978o Dalton Lake Picnic Grounds (N-15-78). Ms., USFS.

1978p Steamboat Rock Picnic Ground (N-16-78). Ms., USFS.

1978q Terry Peak Information Site (N-17-78). Ms., USFS.

1978r Lucky Strike Timber Sale (N-18-78). Ms., USFS.

1978s FDR#198 - Road Relocation and Rehabilitation (N-19-78). Ms., USFS.

1978t Windy Flat - Hay Creek Bark Beetle Sale (N-20-78). Ms., USFS.

1978u Mason Bark Beetle Sale (N-21-78). Ms., USFS.

1978v Sandy Creek Bug Sale (N-22-78). Ms., USFS.

1978w Steger Bug Sale (N-23-78). Ms., USFS.

1978x Walker Bug Sale (N-24-78). Ms., USFS.

1978y Walker Bug Sale # 2 (N-25-78). Ms., USFS.

1978z Bennett Bug Sale (N-26-78). Ms., USFS.

1978aa Heaton Bark Beetle Sale (N-27-78). Ms., USFS.

1978bb Kirk Hill Bug Sale (N-28-78). Ms., USFS.

1978cc Lost Gulch Bark Beetle Sale(N-29-78). Ms., USFS.

1978dd Goodsell Special Use Road (H-6-78). Ms., USFS.

1979a Bob Schmitz No. 385 Drift Fence (N-1-79). Ms., USFS.

1979b Nemo County Road Drift Fence (Allen Smith Alltoment)(N-2-79). Ms., USFS.

1979c Merritt Estes Drift Fence and Pactola - Boxelder Drift Fence (N-3-79). Ms., USFS.

1979d Boxelder - Little Elk Drift Fence (N-4-79). Ms., USFS.

1979e Duren - Camp Estes Drift Fence (N-5-79). Ms., USFS.

1979f Red Hill Timber Sale (N-6-79). Ms., USFS.

1979g North Nemo Prescribed Burn (Cat Line Coverage), (N-7-79). Ms., USFS.

1979h Retzer Special Use Road (N-8-79). Ms., USFS.

1979i Junction Fuel Management Area (N-9-79). Ms., USFS.

1979j Dalton Timber Sale (N-10-79). Ms., USFS.

1979k Moonshine Gulch Timber Sale (N-11-79). Ms., USFS.

1979l Merritt - Estes Drift Fence (Revised)(N-12-79). Ms., USFS.

1979m Water Improvement Project (Turkey Deer Guzzler) (P-2-79). Ms., USFS.

1979n Commisary - Balser Timber Sale (P-17-79). Ms., USFS.

1980a Polo Peak Fence (N-1-80). Ms., USFS.

1980b Moonshine Gulch Mineral Exploration Drill Site (N-2-80). Ms., USFS.

- 1980c Crego Fence Project (N-3-80). Ms., USFS.
- 1980d Hallorans Draw Ponds (Range Improvement)
(N-4-80). Ms., USFS.
- 1980e Minnesota Gulch Timber Sale (N-5-80). Ms., USFS.
- 1980f Strawberry Hill Vegetative Management Area
(N-6-80). Ms., USFS.
- 1980g East Gimlet Timber Sale (N-7-80). Ms., USFS.
- 1980h Tunnel Timber Sale (N-8-80). Ms., USFS.
- 1980i Chicken Prescribed Burn (N-10-80). Ms., USFS.
- 1980j Nemo Work Center Main Office Structure (Selling
and Removal)(N-14-80). Ms., USFS.
- 1980k Buzzard's Roost Timber Sale (P-3-80). Ms., USFS.
- 1980l Baker Park Spring Development Area (P-8-80).
Ms., USFS.
- 1981a Stagebarn Prescribed Burn (Cat Line Coverage)
(N-1-81). Ms., USFS.
- 1981b Deer Mountain Vegetative Management Area (N-2-81).
Ms., USFS.
- 1981c Anderson Range Improvement Fence (N-5-81). Ms.,
USFS.
- 1981d Green Mountain Thinning Area (N-6-81). Ms., USFS.
- 1981e Maitland Vegetative Management Area(N-7-81).
Ms., USFS.
- 1981f Englewood - Woodville Thinning Project (N-8-81).
Ms., USFS.
- 1982a Greenwood Thinning Project (N-3-82). Ms., USFS.
- 1982b Custer Peak Gravel Pit Extension (N-4-82). Ms.,
USFS.
- 1982c Homex (Boxelder Mining Project)(N-5-82). Ms., USFS.
- 1982d School House Thinning Area (N-8-82). Ms., USFS.
- 1982e Boxelder Thinning Project (N-9-82). Ms., USFS.
- 1982f Gingrass Thinning Area (N-10-82). Ms., USFS.

- 1982g Green Top Thinning Area (N-11-82). Ms., USFS.
- 1982h Erskine II - Thinning Area (N-12-82). Ms., USFS.
- 1982i Custer Peak Thinning Area (N-13-82). Ms., USFS.
- 1982j Jim Creek Thinning Project (N-14-82). Ms., USFS.
- 1982k Lost Gulch Timber Sale (N-15-82). Ms., USFS.
- 1983a FMC Exploratory Mining (Drill Holes and Trenches) (B-3-83). Ms., USFS.
- 1983b Duval Exploratory Mining Project (B-4-83). Ms., USFS.
- 1983c FMC Exploratory Mining (Drill Hole Sites)(B-5-83). Ms., USFS.
- 1983d Englewood Thinning Project (N-3-83). Ms., USFS.
- 1983e Big Elk II Thinning (N-4-83). Ms., USFS.
- 1983f August Timber Sale (N-5-83). Ms., USFS.
- 1983g Benner Gulch Thinning (N-6-83). Ms., USFS.
- 1983h Camp Columbus Thinning Area (N-8-83). Ms., USFS.
- 1983i Salvage Area Control Burns (N-9-83). Ms., USFS.
- 1983j Higgins Gulch Allotment Division Fence (S-4-83).
- 1983k Bear Ridge Allotment Division Fence (S-5-83). Ms., USFS.
- 1983l Crowley Timber Sale (Spearfish District)(S-6-83). Ms., USFS.
- 1983m Boundary Timber Sale Access Road (S-7-83). Ms. USFS.
- 1983n Pettigrew Allotment Division Fence (S-8-83). Ms., USFS.

Linford, Dee
1947

WYOMING: FRONTIER STATE. Fred A. Roserstock.

Lippencott, Kerry A.
1978

Cultural Resource Survey of Proposed Drill Holes, Lawrence County, South Dakota (N-33-78). Ms., USFS.

- 1980a A Report of a Cultural Resources Survey on United States Forest Service Property, Black Hills National Forest, South Dakota (E-20-80). Ms., USFS.
- 1980b A Cultural Resources Survey of Proposed Uranium Drill Holes, Lawrence County, South Dakota (N-12-80). Ms., USFS.
- 1982 A Report of a Cultural Resources Survey of Selected Portions of Fall River and Custer Counties, South Dakota (E-3-82). Ms., USFS.
- Longacre, William A.
1970 Archaeology as Anthropology: A Case Study. ANTHROPOLOGICAL PAPERS OF THE UNIVERSITY OF ARIZONA, N. 17.
- Ludlow, Col. William
1875 REPORT OF A RECONNAISSANCE OF THE BLACK HILLS OF DAKOTA MADE IN THE SUMMER OF 1874. Department of Engineers, U.S. Army.
- Ludwickson, John, Donald Blakeslee and John O'Shea
1981 Missouri National Recreation River: Native American Cultural Resources. Ms., IAS, Denver.
- Lyon, Bruce
1977a Sheridan Lake Complex - Timber Sale (P-5-77). Ms., USFS.
- 1977b Banner Gulch Timber Sale (P-7-77). Ms., USFS.
- 1977c Burnt Ranch Timber Sale (P-9-77). Ms., USFS.
- 1977d Empress Timber Sale (Bears Den and Seth Bullock Timber Sale Add-On)(P-12-77). Ms., USFS.
- 1979 Northwest Timber Sale (P-1-79). Ms., USFS.
- McClintock, John S.
1939 PIONEER DAYS IN THE BLACK HILLS: AN ACCURATE HISTORY AND FACTS, RELATED BY ONE OF THE EARLY PIONEERS. McClintock, Deadwood.
- McClure, R.F. (compiler)
1887 DAKOTA TERRITORY: RESOURCES OF DDKOTA. The Argus-Leader Co.
- McKay, Joyce
1975a Cultural Resource Inventory Report for Bear Canyon - Parmalee Timber Sale in Elk Mountain Ranger District, An Inventory of Historical Sites (E-3-76). Ms., USFS.

- 1975b Cultural Resource Inventory Report for North Castle Timber Sale in Harney Ranger District, An Inventory of Historical Sites (H-1-75). Ms., USFS.
- 1975c Cultural Resource Inventory Report for Six Mile Timber Sale (#1) in Harney Ranger District, Inventory of Historical Sites (H-2-75). Ms., USFS.
- 1975d Cultural Resource Inventory Report for Montana Timber Sales in Nemo Ranger District, Inventory of Historical Sites (N-8-75). Ms., USFS.
- 1975e Cultural Resource Inventory Report for Irey-Buskala Timber Sale in Nemo Ranger District, Inventory of Historical Sites (N-5-75). Ms., USFS.
- 1975f Cultural Resource Inventory Report, Nugget Gulch, Gorman Gulch, Ice Timber Sale, Boarding House and Baptist Convention Center in Pactola District, Inventory of Historical Sites (P-1-76, P-2-76, P-3-76, P-4-76, P-5-76).
- 1975g Cultural Resource Inventory Report for Savoy Timber Sale in Spearfish Ranger District, Inventory of Historical Sites (S-3-75, S-5-75). Ms., USFS.
- 1975h Cultural Resource Inventory Report for Game Range 3 and Long Bear Timber Sales in Spearfish Ranger District, Inventory of Historical Sites (S-2-75). Ms., USFS.
- 1975i Cultural Resource Inventory Report for Clayton III Timber Sale in Spearfish Ranger District, Inventory of Historical Sites (S-1-75). Ms., USFS.
- 1975j Cultural Resource Inventory Report for South Boxelder Timber Sale in Nemo Ranger District, Inventory of Historical Sites (N-7-75). Ms., USFS.
- 1975k Ninemile Timber Sale (C-4-75). Ms., USFS.
- 1976 Cultural Resource Inventory Report for Tanner, Graham Mountain and McDill Timber Sales in Custer Ranger District, Inventory of Historical Sites (C-1-76, C-2-76, C-3-76). Ms., USFS.

McKusick, Marshall (ed.)

1971 PREHISTORIC INVESTIGATIONS, REPORT 3. Office of the Iowa State Archaeologist.

- Mallery, Garrick
1886 On the Pictographs of the North American Indians. BUREAU OF AMERICAN ETHNOLOGY, REPORT, 4 (1882-83).
- Marcucci, Derrick J.
1977 Cultural Resources Survey of Proposed Pole and Buried Cable Routes for Black Hills Electric Co-op, Pennington County, South Dakota (P-6-77, N-22-77, E-27-77). Ms., USFS.
- Mason, Ronald J.
1981 GREAT LAKES ARCHAEOLOGY. Academic Press.
- Mayhall, Mildred P.
1962 THE KIOWAS. University of Oklahoma Press.
- Meleen, E.E.
1938 A Preliminary Report of the Mitchell Indian Village Site and Burial Mounds. ARCHAEOLOGICAL STUDIES CIRCULAR, N. 2, University of South Dakota.
- Meleen, Elmer E. and James J, Pruitt, Jr.
1941 A Preliminary Report on Rock Shelters in Fall River County, South Dakota. Ms., W.H. Over Museum.
- Meyer, Roy W.
1967 HISTORY OF THE SANTEE SIOUX. University of Nebraska Press.
- 1977 THE VILLAGE INDIANS OF THE UPPER MISSOURI: THE MANDANS, HIDATSAS AND ARIKARAS. University of Nebraska Press.
- Miller, David B.
1972 Calvin Coolidge in the Black Hills. LAWRENCE COUNTY HISTORICAL SOCIETY NEWSLETTER: 1.
- 1977 Survey of the Cultural Resources Associated with the Site of the Proposed Lead-Deadwood Sanitary District Works, Deadwood, S.D. Ms., Lead-Deadwood Sanitary District # 1.
- 1982 Manuscript Field Notes of Rural Survey of Private Holdings in Western Pennington County, S.D. Ms.. South Dakota Historical Preservation Center.
- 1983a The 1868 Fort Laramie Treaty: Another Look. Paper presented at the Fifteenth Annual Dakota History Conference, Madison, S.D.

- 1983b Evaluation of sites on H-9-78 (H-1-83). Ms., USFS.
- 1984a Spearfish National Fish Hatchery: The D.C. Booth Era. Paper presented at the Sixteenth Annual Dakota History Conference, Madison, S.D.
- 1984b GATEWAY TO THE HILLS; A HISTORY OF RAPID CITY. Windsor Publications.

Miller, Frances

- 1981a An Intensive Archaeological Survey of 35 Drill Locations and Access Roads, Cambrian Deadwood Formation Project, Black Hills National Forest, Pennington County, South Dakota (H-4-81). Ms., USFS.
- 1981b An Intensive Archaeological Survey of a Proposed Buried Telephone Cable, Black Hills National Forest, Lawrence County, South Dakota (N-4-81). Ms., USFS.
- 1981c Archaeological Survey of Proposed Placer Mine Claims Lucky Strike Numbers 1-5, Black Hills National Forest, Pennington County, South Dakota (P-3-81). Ms., USFS.
- 1982 An Intensive Archaeological Survey of the Juniper Petroleum Corporation's Fitz-Federal #14-17, Wheels-Federal #44-18, and Hess-Federal #12-20 Well Pads, Black Hills National Forest, Custer County, South Dakota (E-6-82). Ms., USFS.

Miller, Frances and Gary Crossan

- 1981 Archaeological Survey of L. Ventling's Proposed Placer Mine, Black Hills National Forest, Pennington County, South Dakota (P-2-81). Ms., USFS.

Miller, Paul V.

- 1976 An Archaeological Survey of Proposed Test Drill Sites in Fall River County, South Dakota (C-7-76). Ms., SDARC.
- 1977 An Archaeological Survey of the Western Star Timber Sale, Custer County, South Dakota (C-7-78). Ms., USFS.
- 1978a Evaluation of Harney Peak Lookout Tower and Associated Structures (C-5-79). Ms., USFS.
- 1978b Jewel Timber Sale (C-6-78). Ms., USFS.

- 1979a Cultural Resources Survey of the Tenderfoot Timber Sale (C-3-79). Ms., USFS.
- 1979b Cultural Resources Survey of the Michaud Timber Sale (C-4-79). Ms., USFS.
- 1979c Cultural Resources Survey of the Bull Springs, Sourdough and West Custer Timber Sales (C-10-80). Ms., USFS.
- Milton, John (ed.)
1976 THE LITERATURE OF SOUTH DAKOTA. The University of South Dakota Press.
- Mooney, James
1898 Calendar History of the Kiowa. BUREAU OF AMERICAN ETHNOLOGY, 17th ANNUAL REPORT, pt. 2 (1895-96): 141-468.
- 1965 THE GHOST DANCE RELIGION AND THE SIOUX OUTBREAK OF 1890. University of Chicago Press (orig. 1891).
- Moore, John A.
1977 Cultural Resources Survey of Proposed Cable Routes for Bison State Telephone Company, Custer County, South Dakota (E-31-77). Ms., USFS.
- 1982 Archaeological Survey of a Proposed Butte Electric Powerline, Lawrence County, South Dakota (N-6-82). Ms., USFS.
- Moorhead, Warren K.
1928 Explorations of 1922, 1924 and 1927. IN: THE CAHOKIA MOUNDS, pt. 1, UNIVERSITY OF ILLINOIS BULLETIN, V. 26, N. 4:7-106.
- Morgan, Dale
1953 JEDEDIAH SMITH AND THE OPENING OF THE WEST. Bobbs-Merrill Co.
- 1964 THE WEST OF WILLIAM H. ASHLEY. The Old West Publishing Co.
- Muller-Beck, H.
1967 On Migrations of Hunters Across the Bering Land Bridge in the Upper Pleistocene. IN: D. Hopkins (ed.), THE BERING LAND BRIDGE. Stanford University Press.
- Mulloy, William T.
1954 The McKean Site in Northeastern Wyoming. SOUTHWESTERN JOURNAL OF ANTHROPOLOGY, V. 10, N. 4:432-60.

- 1958 A Preliminary Historical Outline for the North-western Plains. UNIVERSITY OF WYOMING PUBLICATIONS IN SCIENCE, V. 22, N. 1.
- 1959 The James Allen Site near Laramie, Wyoming. AMERICAN ANTIQUITY, V. 25, N. 1:112-16.
- Nelson, Bruce
1946 LAND OF THE DAKOTAHS. University of Minnesota Press.
- Neuman, R.W.
1975 The Sonota Complex and Associated Sites on the Northern Plains. NEBRASKA STATE HISTORICAL SOCIETY PUBLICATIONS IN ANTHROPOLOGY, N. 6.
- Newport, Carl A.
1956 A HISTORY OF BLACK HILLS FORESTRY. Department of Game, Fish and Parks, State of South Dakota.
- Nilles, Ray
1978a Lytle Creek Timber Sale (Add-on)(B-1-78). Ms., USFS.
- 1978b Beaverhead Timber Sale (Add-on)(B-2-78). Ms., USFS.
- 1978c Wood-Slaybaugh Timber Sale (Add-on)(B-3-78). Ms., USFS.
- 1979 Watson Range Project (Spring Developments)(B-1-79). Ms., USFS.
- 1980 North Bearlodge Resource Unit (B-1-80). Ms., USFS.
- Nykamp, Robert, and Linnea Sundstrom
1978 Carroll Creek Timber Sale (C-15-78). Ms., USFS.
- Oglesby, Richard E.
1963 MANUEL LISA AND THE OPENING OF THE MISSOURI FUR TRADE. University of Oklahoma Press.
- O'Harra, Cleophas C.
1913 O'HARRAH'S HANDBOOK OF THE BLACK HILLS. O'Harra.
- 1917 Bibliography of the Geology and Mining Interests of the Black Hills Region. SCHOOL OF MINES BULLETIN, N. 11.
- 1929 Custer's Black Hills Expedition of 1874. THE BLACK HILLS ENGINEER, V. 17:221-86.

- Olson, James C.
 1965 RED CLOUD AND THE SIOUX PROBLEM. University of Nebraska Press.
 1966 HISTORY OF NEBRASKA. University of Nebraska Press.
- Orr, Ellison
 1963 Iowa Archaeological Reports 1934-1939; Ten Volumes with an Evaluation and Index. ARCHIVES OF ARCHAEOLOGY, N. 20.
- Over, W.H.
 1941 Indian Picture Writing in South Dakota. ARCHAEOLOGICAL STUDIES CIRCULAR IV. University of South Dakota Museum.
- Over, W.H. and E.E. Meleen
 1941 A Report on an Investigation of the Brandon Village Site and the Split Rock Mounds. ARCHAEOLOGICAL STUDIES, CIRCULAR N. 3. University of South Dakota.
- Overton, Richard
 1965 BURLINGTON ROUTE: A HISTORY OF THE BURLINGTON LINES. Alfred A. Knopf.
- Oyate Wicaho
 1981 Correspondence to Chief R. Max Peterson from 38 members of the U.S. Congress. OYATE WICAH, V. 2, No. 6-9.
 1982 The American Indian Movement, July 1968 - January 1982. OYATE WICAH, V. 3, No. 1.
- Palais, Hyman
 1941 A Survey of Early Black Hills History. THE BLACK HILLS ENGINEER, V. 27:3-101.
- Parker, Watson
 1962 The Exploration of the Dakota Black Hills. M.A. Thesis, University of Oklahoma.
 1966 GOLD IN THE BLACK HILLS. University of Oklahoma Press.
 1970 Black Hills Bibliography. COLLECTIONS, South Dakota State Historical Society, V. 35:169-301.
 1972 The Majors and the Miners: The Role of the U.S. Army in the Black Hills Gold Rush. JOURNAL OF THE WEST, V. 11:99-111.

- 1974 BLACK HILLS GHOST TOWNS. Swallow Press, Inc.
- 1981 DEADWOOD: THE GOLDEN YEARS. University of Nebraska Press.
- 1984 The Black Hills Controversy. Paper presented at the Sixteenth Annual Dakota History Conference, Madison, S.D.
- Peattie, Roderick
1952 THE BLACK HILLS. Vanguard Press, Inc.
- Pence, Mary Lou and Lola M. Homsher
1956 GHOST TOWNS OF WYOMING. Hastings House.
- Pettingill, O.S. and Nathaniel R. Whitney, Jr.
1965 BIRDS OF THE BLACK HILLS. Special Publication N. 1, Cornell Laboratory of Ornithology, Ithaca.
- Phillips, Paul C.
1961 THE FUR TRADE. University of Oklahoma Press (2 vols.).
- Pinner, Judy and Danny N. Walker
1976 B-1-76, B-2-76, B-3-76, B-4-76. Ms., USFS.
- Pomeroy, Earl S.
1947 THE TERRITORIES OF THE UNITED STATES. University of Pennsylvania Press.
- Popelish, Linda
1978a Cultural Resource Survey of the Victoria Timber Sale (P-2-78). Ms., USFS.
- 1978b Cultural Resources Survey of the North Sheridan Lake and Calumet Timber Sales, Pactola District, Black Hills National Forest, South Dakota (P-9-78). Ms., USFS.
- Powell, Peter J.
1969 SWEET MEDICINE: THE CONTINUING ROLE OF THE SACRED ARROWS, THE SUNDANCE AND THE SACRED BUFFALO HAT IN NORTHERN CHEYENNE HISTORY. University of Oklahoma Press.
- 1980 THE CHEYENNES, M'HEO'YO'S PEOPLE: A CRITICAL BIBLIOGRAPHY. The Newberry Library Center for the History of the American Indian Bibliographical Series.
- Progulske, Donald
1974 YELLOW ORE, YELLOW HAIR AND YELLOW PINE. South Dakota State University Agricultural Extension Service.

- Prucha, Francis
 1953 BROADAX AND BAYONET. University of Wisconsin Press.
- 1962 AMERICAN INDIAN POLICY IN THE FORMATIVE YEARS. Harvard University Press.
- Reeves, Brian
 1973 The Concept of an Altithermal Cultural Hiatus in Northern Plains Prehistory. AMERICAN ANTHROPOLOGIST, V. 75, N. 5:1221-1253.
- Reher, Charles A. and George C. Frison
 1980 The Vore Site, 48CK302, A Stratified Buffalo Jump in the Wyoming Black Hills. PLAINS ANTHROPOLOGIST, V. 25, N. 88, pt. 2, Memoir 16.
- Reher, Charles A. and Larry A. Lahren
 1977 A Preliminary Evaluation of Archaeological Resources and an Assessment of Impacts: Wolf Canyon Project, Fall River County, South Dakota. Ms., USFS.
- Riggs, S.R.
 1926 Journal of a Tour from Lac-qui-Parle to the Missouri. SOUTH DAKOTA HISTORICAL COLLECTIONS.
- Robbins, R.M.
 1942 OUR LANDED HERITAGE: THE PUBLIC DOMAIN, 1776-1936. Princeton University Press.
- Robinson, Doane
 1904 HISTORY OF SOUTH DAKOTA. B.F. Bowen and Co.
- 1925 ENCYCLOPEDIA OF SOUTH DAKOTA. Robinson.
- 1956 A HISTORY OF THE SIOUX INDIANS. Ross and Haines.
- Robson, Larry G.
 1983a Proposed Borrow Area, Deerfield Dam, South Dakota (H-4-83). Ms., USFS.
- 1983b Downstream Borrow Area, Deerfield Dam, South Dakota (H-4-83). Ms., USFS.
- Rosen, Rev. Peter
 1895 PA-HA-SA-PAH OR THE BLACK HILLS OF SOUTH DAKOTA. Nixon-James Printing Co.
- Sandoz, Mari
 1969 CHEYENNE AUTUMN. Avon Books.
- Sartain, James A.
 1979 A Cultural Resources Survey of a Proposed Highway Realignment Project on Highway 385 South of Hill City, Pennington County, South Dakota (H-12-79). Ms., USFS.

- Schatz, August H.
1961 LONGHORNS BRING CULTURE. Christopher Publishing Co.
- Schell, Herbert S.
1972 HISTORY OF SOUTH DAKOTA. University of Nebraska Press.
- Schuttler, Ronald
1984 The Civilian Conservation Corps in the Black Hills. Ms., Leland D. Case Library for Western Historical Studies, Spearfish.
- Semencic, Carl
1976 N-16-76. Ms., USFS.
- Seymour, Forrest W.
1981 SITANKA, THE FULL STORY OF WOUNDED KNEE. Christopher Publishing House.
- Shelford, Victor E.
1963 THE ECOLOGY OF NORTH AMERICA. University of Illinois Press.
- Shelton, John S.
1966 GEOLOGY ILLUSTRATED. W.H. Freeman and Co.
- Sigstad, John S.
1974 S-1-74. Ms., USFS.
1975a Baily Land Exchange (C-2-75). Ms., USFS.
1975b Paulton Land Exchange (C-1-75). Ms., USFS.
- Sigstad, John S. and Robert Jolley
1975 An Archaeological Survey of Portions of Fall River and Custer Counties, South Dakota (E-32-77). Ms., USFS.
- Sigstad, J. Steve and Joanita Kant Sigstad
1973 The Sisseton Mound: A Tribal Project. ARCHAEOLOGICAL STUDIES CIRCULAR NO. 14. W.H. Over Museum.
- Slay, John D.
1977 Cultural Resources Survey of the Proposed Selway Land Exchange (N-16-77). Ms., USFS.
1978 Cultural Resources Survey of the Proposed Supervisor's Office Administrative Site, Black Hills National Forest (C-9-78). Ms., USFS.

- 1979a Cultural Resources Survey of Selected Areas on Calumet Ridge, Pennington County, South Dakota (P-4-79). Ms., USFS.
- 1979b Cultural Resources Survey of the Proposed Yargus Land Exchange (H-11-79). Ms., USFS.
- Smith, G. Hubert
1980 THE EXPLORATIONS OF THE LA VERENDRYES IN THE NORTHERN PLAINS, 1738-43. University of Nebraska Press.
- Smith, L. Sue
1979a Hank Pepin, Water Dugouts (C-6-79). Ms., USFS.
- 1979b Special Use Fenceline (L. Swendlund)(C-7-79). Ms., USFS.
- 1979c Big Whale Mine (C-8-79). Ms., USFS.
- 1979d South McClure - Well and Dugouts(C-9-79). Ms., USFS.
- 1979e F. Conlon Dugouts (C-10-79). Ms., USFS.
- 1979f Yellow Jacket Spring (C-11-79). Ms., USFS.
- 1979g Clint DeGeest Road (C-12-79). Ms., USFS.
- 1979h Wapiti Mine (C-13-79). Ms., USFS.
- Snow, E.A. and F. Roeser
1940 The National Forests of the Black Hills. BLACK HILLS ENGINEER, V. 26:245-59.
- Sommers, Cliff
1978a Burnt Ranch Timber Sale Annex (P-6-78). Ms., USFS.
- 1978b Jenny Gulch Timber Sale (P-7-78). Ms., USFS.
- 1978c Pactola Dam Timber Sale (P-8-78). Ms., USFS.
- 1978d Spring Creek Campground (Future Development) (P-5-78). Ms., USFS.
- 1979a Rapid Creek Timber Sale (P-3-79). Ms., USFS.
- 1979b Deer Creek Timber Sale (P-5-79). Ms., USFS.

- 1979c Livestock Dam (P-6-79). Ms., USFS.
- 1979d Fence Line Project (P-7-79). Ms., USFS.
- 1979e Silver City Parking Lot (P-8-79). Ms., USFS.
- 1979f Mt. Perrin Campground (P-9-79). Ms., USFS.
- 1979g Deer Creek Fuel Breaks (P-10-79). Ms., USFS.
- 1979h Wilding Transplant Permit Area (P-11-79). Ms., USFS.
- 1979i Grizzly Bear Powerline (P-12-79). Ms., USFS.
- 1979j Calumet Road (P-13-79). Ms., USFS.
- 1979k Perrin Mountain Timber Sale (P-14-79). Ms., USFS.
- 1979l Tomaha Timber Sale (P-15-79). Ms., USFS.
- 1980 Hunt Special Use Road (P-2-80). Ms., USFS.
- South Dakota Archaeological Research Center
1976 Archaeological Survey of Coldbrook and Cottonwood Springs Reservoirs, Fall River County, South Dakota. Ms., SDARC.
- South Dakota Division of Railroads
1978 Railplan, South Dakota. State of South Dakota.
- Spaulding, Albert C.
1956 The Arzberger Site. OCCASIONAL CONTRIBUTIONS FROM THE MUSEUM OF ANTHROPOLOGY, UNIVERSITY OF MICHIGAN, N. 16.
- Spring, Agnes Wright
1949 THE CHEYENNE AND BLACK HILLS STAGE AND EXPRESS ROUTES. Arthur H. Clark Co.
- Spring, Agnes Wright and Dee Linford (eds.)
1941 WYOMING, A GUIDE TO ITS HISTORY, HIGHWAYS AND PEOPLE. Oxford University Press.
- Stands In Timber, John, and Margot Liberty
1967 CHEYENNE MEMORIES. Yale University Press.

- Stevens, Sandy and Alice M. Tratebas
1978 Cultural Resources Surveys of Two Proposed
Buried Telephone Cable Routes, Harney District,
Black Hills National Forest (H-12-78). Ms., USFS.
- Stewart, Edgar I.
1955 CUSTER'S LUCK. University of Oklahoma Press.
- Stewart, R.E. and C.A. Thilenius
1964 BLACK HILLS LAKES AND STREAMS. South Dakota
Department of Game Fish and Parks.
- Stokes, George W. and Howard Driggs
1926 DEADWOOD GOLD: A STORY OF THE BLACK HILLS.
World Book Co.
- Sudderth, W.E.
1963 Archaeological Reconnaissance of Wind Cave
National Park. Ms., National Park Service.
- Sulentic, Joe
1975 DEADWOOD GULCH: THE LAST CHINATOWN. Deadwood
Gulch Art Gallery
- Sunder, John E.
1965 THE FUR TRADE ON THE UPPER MISSOURI, 1840-1865.
University of Oklahoma Press.
- Sundstrom, Jesse Y. (ed.)
1977 CUSTER COUNTY HISTORY TO 1976. Custer County
Historical Society.
- Sundstrom, Linea
1983 Archaeological and Historic Resources in the
Proposed U.S. Highway 16 Right-of-Way Near the
Keystone 'Y', South Dakota (P-6-83). Ms.. USFS.
- 1984 Rock Art of Western South Dakota (Sec. 2), The
Southern Black Hills. SPECIAL PUBLICATION OF
THE SOUTH DAKOTA ARCHAEOLOGICAL SOCIETY, N. 9.
- Swanton, John
1936 Early History of the Eastern Siouan Tribes. IN:
ESSAYS IN ANTHROPOLOGY PRESENTED TO A.L. KROEBER.
University of California Press.
- Symes, Steven A.
1977 A Cultural Resources Survey of a Proposed
Buried Cable on the Bob Marshall Camp, Custer
County, South Dakota (C-21-78). Ms., USFS.

- Symes, Steven A. and Karen West
 1976 Archeological Survey Within the Black Hills
 National Forest, Crook County, Wyoming, 1976
 (B-4-77). Ms.. USFS.
- Szalay, Fr. Eugene
 1976 The Spearfish Stockade. LAWRENCE COUNTY
 HISTORICAL SOCIETY NEWSLETTER, V. 5.
- Tallent, Annie D.
 1899 THE BLACK HILLS OR THE LAST HUNTING GROUND OF
 THE DAKOTAHS. Brevet Press (reprint 1974).
- Thomson, Frank S.
 1956 THE THOEN STONE: A SAGA OF THE BLACK HILLS.
 Thomson, Spearfish.
- 1974 NINETY-SIX YEARS IN THE BLACK HILLS. Harlo
 Press.
- Thwiates, Reuben Gold
 1904 ORIGINAL JOURNALS OF LEWIS AND CLARK, 1804 - 1806.
 Dodd, Mead and Co.(8 vols.).
- Toole, K. Ross
 1959 MONTANA: AN UNCOMMON LAND. University of
 Oklahoma Press.
- Trager, George L. and Edith C. Trager
 1959 Current Status of Research on the McKean Complex
 in South Dakota. IN: Zimmerman and Stewart (eds.),
 The Future of South Dakota's Past. SPECIAL
 PUBLICATION OF THE SOUTH DAKOTA ARCHAEOLOGICAL
 SOCIETY, N. 2.
- Tratebas, Alice M.
 1976a Deerfield Lake Fence (H-2-76). Ms., USFS.
- 1976b Cultural Resources Survey of Deerfield Reservoir
 in the Black Hills, South Dakota (H-3-76). Ms.,
 USFS.
- 1976c Preliminary Report on the Cultural Resources
 Survey of the Besant Park Timber Sale (N16), Nemo
 District, Black Hills National Forest (N-26-75).
 Ms., USFS.
- 1976d Cultural Resources Surveys of Two Buried Tele-
 phone Cable Routes, Black Hills National Forest
 (P-6-76). Ms., USFS.
- 1976e Preliminary Report on the Cultural Resources of
 P22 and P6, Pactola District, Black Hills National
 Forest (P-7-76, P-8-76). Ms., USFS.

- 1976f Preliminary Report on the Cultural Resource Surveys of C5, C12, and C40, Custer District, Black Hills National Forest (C-4-76, C-5-76, C-6-76). Ms., USFS.
- 1976g Preliminary Report on the Cultural Resources Survey of Empress Timber Sale (P10), Pactola District, Black Hills National Forest (P-8-77). Ms., USFS.
- 1976h Preliminary Report on the Cultural Resources Surveys of EM1, EM19, EM21, EM22, EM24, EM26, Elk Mountain District, BBNF (E-1-75, E-5-76, E-6-76, E-7-76, E-8-76, E-9-76, E-10-76, E-11-76, E-12-76). Ms., USFS.
- 1976i Preliminary Report on the Cultural Resources Surveys of EM2, EM27, EM28, EM30, EM31, Elk Mountain District, BBNF (E-2-75, E-13-76, E-14-76, E-15-76, E-16-76). Ms., USFS.
- 1976j E-18-76. Ms., USFS.
- 1977a Cultural Resource Survey of a Proposed Private Road, Harney District, Black Hills National Forest (H-7-77). Ms., USFS.
- 1977b Preliminary Report on the Cultural Resources Surveys of Crooked Creek (H6) and Railway (H8) Bug Salvage Projects, Harney District, Black Hills National Forest (H-21-77 H-22-77). Ms., USFS.
- 1977c Preliminary Report on the Cultural Resources Surveys on Preacher (N1), Crook (N2), and Boundary (N3) Timber Sales, Nemo District, BBNF (N-1-76, N-2-76, N-3-76). Ms., USFS.
- 1977d Preliminary Report on the Cultural Resources Surveys of Dry Elk (N4), Cemetery (N6), and Golf (N9) Timber Sales, Nemo District, BBNF (N-4-76; N-9-76, N-20-77). Ms., USFS.
- 1977e A Preliminary Report on the Cultural Resources Surveys of Custer Peak (N12), Benchmark (N14), and Erskine Cave (N15) Timber Sales, Nemo District, BBNF (N-14-75, N-15-75, N-12-76). Ms., USFS.
- 1977f A Cultural Resources Survey of North Cove, Jenny Gulch, and Pactola Campgrounds, Pactola District, BBNF (P-1-77, P-2-77, P-3-77). Ms., USFS.

- 1977g Preliminary Report on the Cultural Resources Survey of Timon (S19) and Wildcat (S25) Timber Sales, Spearfish District, BHNF (S-1-76, S-4-76). Ms., USFS.
- 1977h Preliminary Report on the Cultural Resources Surveys of Cheyenne Crossing I (S9) and II (S10), and Little Spearfish II (S12) Timber Sales, Spearfish District, BHNF(S-5-76, S-8-76, S-6-76). Ms., USFS.
- 1977i Preliminary Report on the Cultural Resources Surveys of Squaw Creek (S4) and Little Spearfish I (S11) Timber Sales, Spearfish District, BHNF (S-7-76, S-9-76). Ms., USFS.
- 1977j Preliminary Report on the Cultural Resources Survey of the Deer Creek Road Segment (B13), Bear Lodge District, BHNF (B-3-77). Ms., USFS.
- 1977k Cultural Resources Survey of a Proposed Private Road, Harney District, BHNF (H-7-77). Ms., USFS.
- 1977l Preliminary Report on the Cultural Resources Surveys of Crooked Creek (H6) and Railway (H8) Bug Salvage Projects, Harney District, BHNF (H-21-77). Ms., USFS.
- 1978a Archaeological Surveys in the Black Hills National Forest, South Dakota, 1975-1977. SDARC.
- 1978b Cultural Resource Survey of the Placerville Camp, Pactola District, BHNF (P-10-78). Ms., USFS.
- 1979a Archaeological Surveys in the Black Hills National Forest, South Dakota, 1977-1978. SOUTH DAKOTA ARCHAEOLOGICAL RESEARCH CENTER, CONTRACT INVESTIGATION SERIES, 5
- 1979b Archaeological Excavations Near Stone Quarry Canyon, Black Hills National Forest, South Dakota (E-19-80). Ms., USFS.
- 1982 Cultural Resource Survey of the It's Placer Mine Claims, Lawrence County, South Dakota (S-1-82). Ms., SDARC.
- 1983 Problems in McKean Research: Suggestions from Black Hills McKean Data. Paper presented at the 41st Plains Conference, Rapid City.

- n.d. Functional Variability and Settlement Locations in the Black Hills. Draft Ph.D. dissertation, Indiana University.
- Tratebas, Alice M. and Renee M. Boen
 1977a Preliminary Report on the Cultural Resources Surveys of Swede (N29) and Butte (N11) Timber Sales, Nemo District, BBNF (N-11-76, N-18-77). Ms., USFS.
- 1977b Preliminary Report on the Cultural Resource Surveys of Bellmate (C41) and Bear Springs (C43) Timber Sales, Custer District, BBNF (C-19-77). Ms., USFS.
- Tratebas, Alice M. and Kristi Vagstad
 1979 Archaeological Test Excavations of Four Sites in the Black Hills National Forest, South Dakota (H-6-80, E-16-80). Ms., USFS.
- Trudeau, Jean Baptiste
 1912 Journal of Jean Baptiste Trudeau Among the Arikara Indians of 1795. MISSOURI HISTORICAL COLLECTIONS, V. 4.
- Turner, Ronald W.
 1974 Mammals of the Black Hills of South Dakota and Wyoming. MISCELLANEOUS PUBLICATIONS, N. 60, University of Kansas Museum of Natural History.
- Turner, Christy G., II
 1981 Dental Evidence for the Peopling of the Americas. Paper presented at the 46th Annual Meeting of the Society for American Archaeology.
- 1983 Dental Evidence for the Peopling of the Americas. IN: R. Shutler (ed.), EARLY MAN IN THE NEW WORLD. Sage Publications.
- United States Congress, Senate
 1876 U.S. REPORT AND JOURNAL OF THE PROCEEDINGS OF THE COMMISSION APPOINTED TO OBTAIN CERTAIN CONCESSIONS FROM THE SIOUX INDIANS. 44th Congress, 2nd Session, Senate Document # 9. Government Printing Office.
- 1880 REPORT: THE SENATE COMMITTEE TO EXAMINE INTO THE CIRCUMSTANCES CONNECTED WITH THE REMOVAL OF THE NORTHERN CHEYENNES FROM THE SIOUX RESERVATION TO THE INDIAN TERRITORY. 46th Congress, 2nd Session, Senate Report 708:1-26.

- United States Department of Agriculture
1962 BLACK HILLS NATIONAL FOREST OF SOUTH DAKOTA AND
WYOMING. U.S.D.A., Region 2.
- Urbanek, Mae
1967 WYOMING PLACE NAMES. Johnson Publishing Co.
- Utley, Robert M.
1963 THE LAST DAYS OF THE SIOUX NATION. Yale
University Press.
- 1967 FRONTIERSMEN IN BLUE: THE U.S. ARMY AND THE
INDIAN, 1848-1865. MacMillan.
- 1977 FRONTIER REGULARS, THE U.S. ARMY AND THE INDIAN,
1866-1891. University of Indiana Press.
- Vagstad, Kristi
1978a Cultural Resources Survey of the Dutch Flats
Timber Sale (S-4-78). Ms., USFS.
- 1978b Cultural Resources Survey of the Proposed
Reconstruction of a Portion of South Dakota
Forest Highway 17, Pennington County, South
Dakota (H-20-78). Ms., USFS.
- 1979a Cultural Resources Survey of a Proposed Power
Line Route South of Jewel Cave, Custer County,
South Dakota (E-7-79). Ms., USFS.
- Vestal, Stanley
1957 SITTING BULL: CHAMPION OF THE SIOUX. University
of Oklahoma Press.
- Warren, C.F.
1928 The Manufacture of Black Hills Forest Products.
BLACK HILLS ENGINEER, V. 16:33-41.
- Warren, Lt. G.K.
1856 EXPLORATIONS IN THE DAKOTA COUNTRY IN THE YEAR
1855. Executive Document, U.S. Senate, 34th
Congress, 76:1-79.
- 1875 EXPLORATIONS IN NEBRASKA AND DAKOTA. Government
Printing Office.
- Wedel, Mildred Mott
1974 Le Sueur and the Dakota Sioux. IN: E. Johnson
(ed.) ASPECTS OF UPPER GREAT LAKES ANTHROPOLOGY
PAPERS IN HONOR OF LLOYD A. WILFORD. Minnesota
Historical Society.
- Weintraub, Boris
1983 Giant Discovery in the Black Hills: Treasure-
Trove of Mammoth Bones is Found in South Dakota.
THE LOS ANGELES TIMES, 12 Nov 1983, pt. 1-A:2.

West, Karen D.

- 1976a Cultural Resources Survey of Proposed North-western Bell Telephone Cable in Selected Areas of Pennington County, South Dakota (P-9-76). Ms., USFS.
- 1976b Cultural Survey of Selected Bug Sale in the North Half of Section 25, T3N, R2E, Lawrence County, South Dakota (N-5-76). Ms., USFS.
- 1976c N-13-76. Ms., USFS.
- 1976d Cultural Resources Survey of Proposed North-western Bell Telephone Cable in Selected Areas of Pennington County, South Dakota (H-25-78, H-26-78). Ms., USFS.

Wettlaufer, Boyd

- 1955 The Mortlatch Site in the Besant Valley of Central Saskatchewan. SASKATCHEWAN MUSEUM OF NATURAL HISTORY, ANTHROPOLOGICAL SERIES, N. 1.

Wettlaufer, Boyd and William J. Mayer-Oakes

- 1960 The Long Creek Site. SASKATCHEWAN MUSEUM OF NATURAL HISTORY, ANTHROPOLOGICAL SERIES, N. 2.

Wheat, Joe Ben

- 1979 The Jurgens Site. PLAINS ANTHROPOLOGIST, V. 24, N. 82, pt. 2, Memoir 15.

Wheeler, Richard P.

- 1952 A Note on the McKean Lanceolate Point. PLAINS ANTHROPOLOGICAL CONFERENCE NEWSLETTER, V. 4, N. 4:39-44.
- 1954 Two New Projectile Point Types: Duncan and Hanna Points. PLAINS ANTHROPOLOGIST, 1:7-14.
- n.d. Archaeological Remains in Three Reservoir Areas in South Dakota and Wyoming. Ms., Midwest Archeological Center, Lincoln.

Whittaker, Arthur P.

- 1927 THE SPANISH-AMERICAN FRONTIER, 1783-1795. Harper and Row.

Wichman, Alan M.

- 1978a Cultural Resource Survey of the Custer Gap-Hat Mountain Timber Sale(P-3-78). Ms., USFS.
- 1978b Cultural Resource Survey of the Experimental Timber Sale (N-30-78). Ms., USFS.

- Willard, Jess and A.M. Brown
1924 THE BLACK HILLS TRAILS. Willard and Brown, Sturgis.
- Williams, Albert N.
1952 THE BLACK HILLS. Southern Methodist University Press.
- Willey, Gordon and Philip Phillips
1958 METHOD AND THEORY IN AMERICAN ARCHAEOLOGY. University of Chicago Press.
- Wissler, Clark
1914 The Influence of the Horse in the Development of Plains Culture. AMERICAN ANTHROPOLOGIST, V. 16, N. 1:1-25.
- Wilmsen, Edwin and Frank H.H. Roberts
1978 Lindenmeier, 1934-1974. SMITHSONIAN CONTRIBUTIONS TO ANTHROPOLOGY, N. 24.
- Witzel, Frank and John Hartley
1973 Two Possible Source Areas for Quartzite Artifacts at the Hudson-Meng Site - A Comparative Study. TRANSACTIONS OF THE NEBRASKA ACADEMY OF SCIENCE, V. 3:12-19.
- Wood, Raymond
1967 An Interpretation of Mandan Culture History. BUREAU OF AMERICAN ETHNOLOGY, BULLETIN 198.

1976 Fay Tolton and the Initial Middle Missouri Variant. MISSOURI ARCHAEOLOGICAL RESEARCH SERIES, N. 13.
- Wood, Richard G.
1966 STEPHEN H. LONG, 1784-1864: ARMY ENGINEER, EXPLORER, INVENTOR. Arthur Clark and Co.
- Wyoming Recreation Commission
1977 WYOMING: A GUIDE TO HISTORIC SITES. Big Horn Book Co.
- Zeimens, George M.
1975 E-11-75, B-1-75, B-2-75, B-3-75, B-4-75, B-5-75, B-6-75, B-7-75. Ms., USFS.
- Zimmerman, Larry J.
1975 Preliminary Archaeological Reconnaissance of the Black Hills Scouting Center at Medicine Mountain Ranch, Pennington County, South Dakota (H-3-75). Ms., USFS.

1982 Correspondence to Jan Hammil, 17 Nov.(on file University of South Dakota).

1984 PEOPLES OF PREHISTORIC SOUTH DAKOTA. University
 of Nebraska Press.

Zimmerman, Larry J. and Richard G. Whitten
1980 Prehistoric Bones Tell a Grim Tale of Indian
 v. Indian. SMITHSONIAN, V. 11, N. 6:100-108.

APPENDIX I:

Catalog of Historic and Prehistoric Sites
On the Black Hills National Forest

Sites in chronological order by
alphabetized Ranger District

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
48CK52		Bear Lodge	prehistoric quarry	Symes and West 1976		more info
48CK58	01-01	"	prehistoric lithic scatter	Hammer 1977a		not elig
48CK59	01-02	"	prehistoric chipping stn	"		more info
48CK60	01-03	"	prehistoric camp	"		not elig
48CK61	01-04	"	historic homestead	"		more info
48CK62	01-05	"	prehistoric quarry	"		more info
48CK63	01-06	"	prehistoric camp	"		not elig
48CK237	01-152	"	historic spring, initials	Nilles 1980		more info
48CK238	01-94	"	prehist. lithic scatter	"		more info
48CK239	01-159	"	prehist. "scribing"	"		more info
48CK240	01-18	"	historic sawmill	"		more info
48CK241	01-21	"	prehistoric quarry	"		more info
48CK242	01-160	"	historic habitation/spg	"		more info
48CK243	01-92	"	prehist. "scribing"	"		more info
48CK244	01-93	"	"	"		more info
48CK245	01-153	"	prehist. monolith scribing	"		more info
48CK246	01-91	"	prehist. stone alignments (2)	"		more info
48CK247	01-193	"	prehist. lithic scatter	"		more info
48CK248	01-239	"	"	"		more info
48CK249	01-15	"	"	"		more info
48CK250	01-90	Bear Lodge	prehist. lithic scatter	Nilles 1980		more info
48CK251	01-89	"	historic log bldg.	"		more info
48CK252	01-88	"	"	"		more info
48CK253	01-87	"	prehist. lithic scatter	"		more info
48CK254	01-22	"	historic bldg. ruins	"		more info
48CK255	01-451	"	historic spring	"		more info
48CK256	01-394	"	prehistoric quarry	"		more info
48CK257	01-290	"	historic spring	"		more info
48CK258	01-86	"	prehist. lithic scatter	"		more info
48CK259	01-283	"	"	"		more info
48CK260	01-284	"	"	"		more info
48CK261	01-281	"	prehist. bone bed	"		more info
48CK262	01-286	"	prehistoric quarry	"		more info
48CK263	01-287	"	prehist. lithic scatter	"		more info
48CK264	01-106	"	prehistoric quarry	"		more info
48CK265	01-107	"	CCC Camp	"		more info
48CK266	01-253	"	historic "scribing"	"		more info
48CK267	01-85	"	prehist. lithic scatter	"		more info
48CK268	01-457	"	historic spring	"		more info
48CK269	01-285	"	prehistoric quarry	"		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Resp.
48CK270	01-288	Bear Lodge	prehistoric camp	Nilles 1980		more info
48CK271	01-278	"	prehist. lithic scatter	"		more info
48CK272	01-279	"	prehistoric camp	"		more info
48CK273	01-280	"	prehistoric quarry	"		more info
48CK274	01-142	"	"	"		more info
48CK275	01-143	"	"	"		more info
48CK276	01-82	"	prehist. lithic scatter	"		more info
48CK277	01-293	"	historic bldg. site	"		more info
48CK278	01-95	"	prehistoric camp	"		more info
48CK279	01-161	"	historic spring	"		more info
48CK280	01-146	"	prehistoric camp	"		more info
48CK281	01-219	"	historic spring	"		more info
48CK282	01-139	"	overhang (prehist?)	"		more info
48CK283	01-145	"	historic plantation	"		more info
48CK284	01-409	"	historic spring	"		more info
48CK285	01-410	"	"	"		more info
48CK286	01-464	"	"	"		more info
48CK287	01-140	"	prehist. quarry	"		more info
48CK288	01-72	"	"	"		more info
48CK289	01-74	"	prehistoric camp	"		more info
48CK290	01-102	Bear Lodge	prehistoric quarry	Nilles 1980		more info
48CK291	01-417	"	historic spring	"		more info
48CK292	01-75	"	prehistoric camp	"		more info
48CK293	01-78	"	historic cabin ruin	"		more info
48CK294	01-81	"	prehist. lithic scatter	"		more info
48CK295	01-470	"	historic spring	"		more info
48CK296	01-469	"	"	"		more info
48CK297	01-98	"	prehist. lithic scatter	"		more info
48CK298	01-100	"	historic cabin ruin	"		more info
48CK299	01-364	"	"	"		more info
48CK365	01-111	"	prehistoric camp	Nilles 1979		more info
48CK472	01-521	"	prehistoric quarry	Larson, et al 1983	USFS	not elig
48CK473	01-522	"	prehist. ltd. activity	"	"	not elig
48CK474	01-523	"	prehistoric quarry	"	"	not elig
48CK475	01-524	"	"	"	"	not elig
48CK476	01-525	"	historic habitation	"		not elig
48CK477	01-531	"	prehist/ ltd. activity	"		not elig
48CK478	01-530	"	prehistoric quarry	"		not elig
48CK479	01-527	"	historic habitation	"		not elig
48CK480	01-526	"	historic logging site	"		eligible

<u>State</u> <u>Site #</u>	<u>USFS</u> <u>Site #</u>	<u>USFS</u> <u>Distr.</u>	<u>Description</u>	<u>Reference</u>	<u>Where</u> <u>Curated</u>	<u>N.R. Recd.</u>
39LA226	01-64	Bear Lodge	historic habitation	Nilles 1979		more info
39LA227	01-66	"	prehist. lithic scatter	"		more info
	01-56	"	prehistoric habitation	Nilles 1978a		more info
	01-58	"	prehist. lithic scatter	"		more info
	01-38	"	"	Nilles 1978b		more info
	01-41	"	hist. Shaffer Mine	"		more info
	01-42	"	hist. Leeman Cabin	"		more info
	01-43	"	hist. Goodson Cabin	"		more info
	01-20	"	prehistoric quarry	Nilles 1978c		more info
	01-49	"	prehist. lithic scatter	"		more info
	01-50	"	"	"		more info
	01-52	"	"	"		more info
	01-53	"	"	"		more info
	01-54	"	"	"		more info
	01-55	"	"	"		more info
	01-260	"	"	"		more info
	01-261	"	prehistoric camp	"		more info
	01-262	"	prehist. rock shelter	"		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Regs.
39CU7		Custer	prehist. stone circles	Sigstad 1975b		not elig
39CU12		"	prehistoric camp	McKay 1976		more info
39CU13		"	prehist. game overlook	"		not elig
39CU14		"	prehistoric camp	Tratebas 1976f		more info
39CU15		"	"	"		more info
39CU22		"	prehistoric I.P.	"		not elig
39CU23		"	prehist. chipping stn	"		not elig
39CU29		"	prehistoric I.P.	Tratebas and Boen 1977b		more info
39CU30		"	"	"		more info
39CU31		"	prehistoric camp	Tratebas 1978a		more info
39CU32	03-294	"	"	"		more info
39CU46		"	prehist. stone alignment	Boen 1977f		more info
39CU47		"	prehistoric camp	"	SDARC	more info
39CU48		"	prehistoric I.P.	"		not elig
39CU49		"	prehistoric camp	"		more info
39CU57		"	prehist. game overlook	Tratebas 1978a	SDARC	not elig
39CU59		"	prehistoric camp	Tratebas 1976f		more info
39CU60		"	"	"		more info
39CU61		"	"	"		more info
39CU62		"	"	"		more info
39CU63		Custer	prehistoric I.P.	Groenfeldt 1978		not elig
39CU64		"	"	"		not elig
39CU65		"	"	Dalla 1978e		not elig
39CU67		"	"	"		not elig
39CU68		"	"	"		not elig
39CU69		"	"	"		not elig
39CU70	03-129	"	prehistoric camp/ pictograph	Dalla 1978e, Groenfeldt 1978 Sundstrom 1984		eligible
39CU71		"	prehistoric camp	Dalla 1978e		not elig
39CU72		"	prehistoric I.P.	"		not elig
39CU73		"	"	"		not elig
39CU74		"	prehist. chipping stn	"		more info
39CU75		"	prehistoric quarry	Dalla 1978d	SDARC	more info
39CU76		"	prehist. chipping stn	"		more info
39CU77		"	prehistoric camp	"	SDARC	more info
39CU78		"	prehist. chipping stn	"	SDARC	more info
39CU79		"	"	"		more info
39CU80		"	"	"		not elig
39CU81		"	prehistoric I.P.	"		not elig
39CU82		"	"	"	SDARC	not elig
39CU83		"	prehist. chipping stn	"	SDARC	more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39CU84		Custer	prehistoric camps	Dalla 1978d	SDARC	more info
39CU85		"	prehistoric I.F.	"		not elig
39CU86		"	prehistoric camp	"		more info
39CU87		"	prehistoric I.F.	"	SDARC	not elig
39CU101		"	historic mine	Eckles 1978b		not elig
39CU102	03-01	"	"	Frost 1977h		more info
39CU103	03-02	"	Glen Erin Lake CCC Camp (F-11)	"		more info
39CU104	03-03	"	historic feldspar mine	"		more info
39CU105	03-04	"	prehistoric I.F.	Frost 1977j		not elig
39CU107	03-51	"	historic habitation	Frost 1977r		more info
39CU113	03-82	"	prehistoric rockshelter	Groenfeldt 1978		more info
39CU114	03-122	"	prehist. lithic scatter	"		more info
39CU115	03-81	"	prehist. rockshelter	"		more info
39CU116	03-116	"	prehistoric camp	"		more info
39CU117	03-114	"	"	"		more info
39CU118	03-120	"	prehistoric quarry	"		not elig
39CU119	03-79	"	CCC Camp (F-13)	"		more info
39CU120	03-123	"	prehistoric camp	"		more info
39CU121	03-85	"	prehist. chipping stn	"		more info
39CU122	03-128	"	prehistoric I.F.	"		not elig
39CU124	03-84	Custer	prehistoric camp	Groenfeldt 1978		more info
39CU125	03-118	"	prehistoric I.F.	"		not elig
39CU126	03-124	"	prehistoric camp	"		more info
39CU127	03-127	"	prehistoric I.F.	"		not elig
39CU128	03-83	"	"	"		not elig
39CU129	03-131	"	prehistoric rockshelter	"		more info
39CU130	03-86	"	prehistoric camp	"		more info
39CU131	03-115	"	prehistoric rockshelter	"		more info
39CU132	03-94	"	prehistoric camp	Eckles 1978b		more info
39CU133	03-90	"	prehistoric chipping stn	"		more info
39CU134	03-63	"	prehistoric camp	"		more info
39CU135	03-91	"	prehistoric I.F.	"		not elig
39CU136	03-64	"	prehistoric chipping stn	"		not elig
39CU137	03-72	"	"	"		more info
39CU138	03-87	"	prehistoric I.F.	"		not elig
39CU139	03-70	"	"	"		not elig
39CU140	03-89	"	"	"		not elig
39CU141	03-88	"	prehistoric camp	"		more info
39CU142		"	prehistoric site	"		not elig
39CU143	03-133	"	prehistoric I.F.	Groenfeldt 1978		not elig

<u>State Site #</u>	<u>USFS Site #</u>	<u>USFS Distr.</u>	<u>Description</u>	<u>Reference</u>	<u>where Curated</u>	<u>N.R. Recd.</u>
39CU144	03-132	Custer	prehistoric rockshelter	Groenfeldt 1978		more info
39CU145	03-134	"	"	"		more info
39CU146	03-60	"	historic homestead	Eckles 1978b		not elig
39CU147	03-65	"	"	"		more info
39CU148	03-52	"	historic logging camp	"		not elig
39CU149	03-55	"	historic mining camp	"		not elig
39CU150	03-61	"	"	"		not elig
39CU151	03-92	"	historic homestead	"		more info
39CU152	03-138	"	prehistoric rockshelter	Groenfeldt 1978		eligible
39CU153	03-137	"	"	"		more info
39CU154	03-139	"	"	"		more info
39CU155	03-143	"	prehistoric I.F.	"		not elig
39CU156	03-144	"	"	"		not elig
39CU157	03-147	"	"	"		not elig
39CU158	03-150	"	prehistoric rockshelter	"		eligible
39CU159	03-152	"	prehistoric camp	"		more info
39CU160	03-77	"	prehist(?) rock piles	"		not elig
39CU161	03-78	"	historic log structure	"		not elig
39CU162	03-80	"	historic barn	"		not elig
39CU163	03-113	"	prehistoric camp	"		more info
39CU164	03-117	Custer	rock wall	Groenfeldt 1978		more info
39CU165	03-119	"	prehistoric rockshelter	"		more info
39CU166	03-121	"	historic rock wall	"		more info
39CU167	03-125	"	historic chicken coop	"		not elig
39CU168	03-126	"	prehistoric camp	"		more info
39CU169	03-130	"	prehistoric rockshelter	"		more info
39CU170	03-140	"	"	"		more info
39CU171	03-141	"	"	"		more info
39CU172	03-142	"	Mayo townsite	"		more info
39CU173	03-146	"	historic mine	"		more info
39CU174	03-147	"	prehistoric rockshelter	"		more info
39CU175	03-148	"	historic cabin	"		not elig
39CU176	03-149	"	prehistoric rockshelter	"		more info
39CU177	03-151	"	historic mine	"		not elig
39CU178	03-153	"	historic sawmill	"		more info
39CU179	03-154	"	historic Ventling Ranch	"		more info
39CU180	03-135	"	historic campsite	"		more info
39CU181	03-136	"	historic mica mine	"		not elig
39CU182	03-105	"	prehistoric I.F.	Eckles 1978b		not elig
39CU185	03-107	"	prehistoric camp	"		

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.H. Recd.
39CU186	03-111	Custer	prehistoric camp	Eckles 1978b		more info
39CU187	03-109	"	"	"		more info
39CU189	03-106	"	prehistoric chipping stn	"		more info
39CU190	03-104	"	"	"		more info
39CU191	03-95	"	prehistoric I.P.	"		not elig
39CU192	03-100	"	"	"		not elig
39CU193	03-101	"	"	"		not elig
39CU194	03-182	"	historic homestead	"		not elig
39CU195	03-103	"	prehistoric camp	"		more info
39CU196	03-112	"	prehist. chipping stn	"		not elig
39CU197	03-176	"	prehistoric I.P.	"		not elig
39CU198	03-99	"	prehist. chipping stn.	"		not elig
39CU200	03-110	"	historic homestead	"		more info
39CU201	03-304	"	prehistoric camp	Cassells 1979a	SDARC	more info
39CU202	03-301	"	"	"	"	not elig
39CU203	03-309	"	prehistoric camp	"	"	not elig
39CU207		"	historic habitation	McKay 1975k		more info
39CU208		"	historic mine	"		more info
39CU209		"	historic mine	"		not elig
39CU210		"	historic habitation/mine	"		eligible
39CU211		Custer	hist. Bull Elk Mine	McKay 1976		more info
39CU212		"	hist. feldspar mine	"		more info
39CU213		"	hist. mica mine	"		more info
39CU214		"	historic sawmill	"		not elig
39CU216		"	Kiddville Stage Station	"		eligible
39CU218		"	historic habitation	Tratebas 1976f		more info
39CU219		"	historic logging camp	"		more info
39CU220		"	hist. May gold mine	"		more info
39CU221		"	hist. Michaud homestead	"		more info
39CU222		"	historic homestead	Boen 1977f	SDARC	more info
39CU223	03-284	"	prehistoric chipping stn	P. Miller 1979b		more info
39CU224		"	historic homestead	Dalla 1978e		more info
39CU225		"	historic sawmill	Dalla 1978d		more info
39CU226		"	"	"		more info
39CU227		"	"	"		more info
39CU228		"	historic homestead	"		more info
39CU229		"	historic sawmill	"		more info
39CU230		"	historic work camp	"		more info
39CU233	03-279	"	prehistoric rockshelter	P. Miller 1979b		more info
39CU239	03-283	"	prehistoric I.P.	"	SDARC	not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39CU247	03-243	"	historic	Nykamp and Sundstrom 1978		not elig
39CU277	03-177	"	prehistoric camp	Eckles 1978b		more info
39CU278	03-96	"	prehistoric I.F.	"		not elig
39CU279	03-108	"	"	"		not elig
39CU281	03-339	"	prehist. lithic scatter	Cassells 1980f		more info
39CU282		"	prehist. chipping stn.	Slay 1978		not elig
39CU283	03-98	"	hist. mining camp	Eckles 1978b		more info
39CU284	03-97	"	historic homestead	"		not elig
39CU285	03-179	"	"	"		not elig
39CU286	03-184	"	prehistoric I.F.	"		not elig
39CU287	03-178	"	historic homestead	"		not elig
39CU289	03-53	"	historic logging camp	"		not elig
39CU290	03-54	"	historic homestead	"		more info
39CU291	03-56	"	historic sawmill	"		not elig
39CU292	03-57	"	historic habitation	"		not elig
39CU293	03-58	"	historic homestead	"		not elig
39CU294	03-59	"	"	"		not elig
39CU295	03-76	"	historic springhouse	"		not elig
39CU296	03-73	"	historic homestead	"		not elig
39CU297	03-74	"	historic mine	"		not elig
39CU298	03-75	Custer	historic ranch	Eckles 1978b		not elig
39CU299	03-174	"	historic Wild Rose Mine	"		not elig
39CU300	03-69	"	historic cabin	"		more info
39CU301	03-62	"	historic mining camp	"		not elig
39CU302	03-66	"	historic mine	"		not elig
39CU303	03-67	"	historic homestead	"		more info
39CU304	03-68	"	"	"		not elig
39CU305	03-93	"	"	"		not elig
39CU306	03-156	"	historic mine	"		not elig
39CU307	03-157	"	"	"		not elig
39CU308	03-158	"	hist. Warren Draw Mine	"		not elig
39CU309	03-175	"	historic springhouse	"		not elig
39CU310	03-180	"	historic homestead	"		not elig
39CU311	03-181	"	prehistoric I.F.	"		not elig
39CU312	03-183	"	historic homestead	"		more info
39CU313	03-159	"	prehist. quarry/camp	Frost 1977c, Eckles 1978a		more info
39CU314	03-160	"	"	"		more info
39CU315	03-161	"	prehist. chipping stn	Eckles 1978a		more info
39CU316	03-163	"	"	"		more info
39CU317	03-164	"	prehistoric camp	"		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Regs.
39CU318	03-171	Custer	prehistoric camp	Eckles 1978a		more info
39CU319	03-172	"	"	"		more info
39CU320	03-185	"	"	"		more info
39CU321	03-186	"	"	"		more info
39CU322	03-187	"	"	"		more info
39CU323	03-188	"	"	"		more info
39CU324	03-189	"	"	"		more info
39CU325	03-191	"	"	"		more info
39CU326	03-194	"	prehistoric I.F.	"		not elig
39CU327	03-213	"	prehistoric camp	Eckles 1978a, Frost 1977g		more info
39CU328	03-214	"	prehistoric I.F.	"		not elig
39CU329	03-215	"	"	"		not elig
39CU330	03-216	"	prehistoric camp	Eckles 1978a		more info
39CU331	03-217	"	"	"		more info
39CU332	03-218	"	"	"		more info
39CU333	03-219	"	prehistoric I.F.	"		not elig
39CU334	03-220	"	"	"		not elig
39CU335	03-221	"	"	"		not elig
39CU336	03-222	"	prehistoric camp	"		more info
39CU337	03-224	"	historic cabin	"		not elig
39CU338	03-223	Custer	prehistoric camp	Eckles 1978a		more info
39CU339	03-225	"	prehistoric I.F.	"		not elig
39CU340	03-226	"	"	"		not elig
39CU341	03-155	"	historic cabin	Groenfeldt 1978		not elig
39CU342	03-227	"	prehistoric I.F.	Eckles 1978a		not elig
39CU343	03-228	"	"	"		not elig
39CU344	03-229	"	"	"		not elig
39CU345	03-230	"	"	"		not elig
39CU346	03-190	"	prehistoric camp	"		more info
39CU347	03-192	"	"	"		more info
39CU348	03-193	"	"	"		more info
39CU349	03-195	"	"	"		more info
39CU350	03-169	"	prehistoric I.F.	"		not elig
39CU351	03-168	"	prehistoric camp	"		more info
39CU363	03-162	"	prehist. chipping stn	"		not elig
39CU364	03-165	"	"	"		not elig
39CU365	03-166	"	prehist. camp/quarry	"		more info
39CU366	03-170	"	prehistoric camp	Eckles 1978a, Frost 1977c		more info
39CU367	03-173	"	prehistoric I.F.	Eckles 1978a		not elig
39CU368	03-238	"	"	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39CU369	03-239	Custer	prehistoric I.F.	Eckles 1978a		not elig
39CU370	03-240	"	"	"		not elig
39CU371	03-167	"	"	"		not elig
39CU373	03-196	"	prehistoric	Nykamp and Sundstrom 1978		not elig
39CU374	03-197	"	"	"		more info
39CU375	03-198	"	"	"		not elig
39CU376	03-199	"	"	"		not elig
39CU377	03-200	"	"	"		not elig
39CU378	03-201	"	prehist. camp/chipping sta	"		more info
39CU379	03-202	"	prehistoric	"		not elig
39CU380	03-203	"	prehistoric rockshelter	"		more info
39CU381	03-204	"	prehistoric I.F.	"		not elig
39CU382	03-205	"	"	"		not elig
39CU383	03-206	"	"	"		not elig
39CU384	03-207	"	"	"		not elig
39CU385	03-208	"	prehistoric rockshelter	"		more info
39CU386	03-241	"	prehistoric quarry	"		more info
39CU387	03-242	"	prehist. chipping stn	"		not elig
39CU388	03-247	"	historic	"		not elig
39CU389	03-244	"	prehistoric I.F.	"		not elig
39CU390	03-245	Custer	prehistoric I.F.	Nykamp and Sundstrom 1978		not elig
39CU391	03-246	"	"	"		not elig
39CU393	03-248	"	historic	"		more info
39CU394	03-394	"	prehistoric I.F.	"		not elig
39CU395	03-250	"	prehistoric camp	"		more info
39CU398	03-209	"	prehistoric rockshelter	Cassells 1981h		not elig
39CU399	03-210	"	prehist. lithic scatter	"		not elig
39CU406		"	prehistoric I.F.	Farmer and Vagstad 1979		not elig
39CU407	03-319	"	historic homestead	Cassells 1979b		not elig
39CU408	03-320	"	NPS Camp (NP-1 sidecamp?)	"		not elig
39CU409	03-321	"	historic homestead	"		not elig
39CU410	03-322	"	historic dump	"	SDARC	not elig
39CU411	03-323	"	historic mine camp	"		not elig
39CU418	03-281	"	prehistoric I.F.	P. Miller 1979b		not elig
39CU419	03-281	"	"	"		not elig
39CU420	03-273	"	historic dump	"	SDARC	not elig
39CU421	03-274	"	prehist. chipping stn	"		more info
39CU422	03-285	"	"	"		more info
39CU423	03-287	"	historic foundation/dump	"		more info
39CU424	03-277c	"	prehist. chipping stn	"		more info

<u>State Site #</u>	<u>USFS Site #</u>	<u>USFS Distr.</u>	<u>Description</u>	<u>Reference</u>	<u>Where Located</u>	<u>N.R. Recd.</u>
39CU425	03-277b	Custer	prehistoric camp	P. Miller 1979b	SDARC	more info
39CU426	03-277a	"	"	"		more info
39CU427	03-276	"	prehist. chipping stn.	"		more info
39CU428	03-289	"	prehistoric rockshelter	"		more info
39CU429	03-288	"	"	"		more info
39CU431	03-282	"	historic mine	"		more info
39CU432	03-286	"	prehist. chipping stn.	"	SDARC	more info
39CU434	03-266	"	historic hand-dug well	P. Miller 1979a		more info
39CU435	03-300	"	historic Onyx Cave	Cassells 1979a		eligible
39CU436	03-302	"	historic homestead	"		not elig
39CU437	03-303	"	"	"	SDARC	eligible
39CU438	03-305	"	"	"	SDARC	not elig
39CU439	03-306	"	"	"		more info
39CU440	03-307	"	"	"	SDARC	more info
39CU441	03-308	"	"	"		not elig
39CU442	03-310	"	prehist. stone circles	"		more info
39CU443	03-311	"	historic homestead	"	SDARC	eligible
39CU444	03-312	"	"	"		not elig
39CU445	03-313	"	"	"		eligible
39CU446	03-314	"	prehist. stone circles	"		more info
39CU447	03-315	Custer	historic homestead	Cassells 1979a	SDARC	not elig
39CU448	03-316	"	prehistoric rockshelter	"		more info
39CU449	03-317	"	"	"		more info
39CU450	03-318	"	"	"		more info
39CU468	03-290	"	prehistoric camp	Cassells 1980f	SDARC	eligible
39CU469	03-292	"	prehistoric quarry	"		more info
39CU470	03-324	"	prehist. lithic scatter	"		not elig
39CU471	03-325	"	"	"		not elig
39CU472	03-327	"	"	"		not elig
39CU473	03-328	"	prehistoric quarry	"		not elig
39CU474	03-329	"	"	"		not elig
39CU475	03-330	"	historic dump	"		not elig
39CU476	03-331	"	historic homestead	"		not elig
39CU477	03-332	"	prehistoric camp	"	SDARC	more info
39CU478	03-333	"	prehistoric quarry	"		not elig
39CU479	03-334	"	3 prehist. rockshelters	"	SDARC	more info
39CU480	03-335	"	historic homestead	"		not elig
39CU481	03-336	"	historic sawmill	"		not elig
39CU482	03-337	"	historic crystal mine	"		more info
39CU483	03-338	"	prehistoric rockshelter	"		more info

State Site #	USPS Site #	USPS Distr.	Description	Reference	Where Curated	N.R. Resp.
39CU484	03-340	Custer	prehistoric quarry	Cassells 1980f		more info
39CU485		"	prehistoric quarry	Lazio 1980c		more info
39CU500	03-267	"	hist. Junction City	P. Miller 1979a		more info
39CU501	03-268	"	hist. Grand Junction Mine	"		more info
39CU502	03-269	"	historic cabin	"		more info
39CU503	03-270	"	hist. mining equipment	"		more info
39CU504	03-271	"	historic cabin	"		more info
39CU505	03-272	"	historic grave	"		more info
39CU506		"	prehistoric I.F.	Lazio 1980c		not elig
39CU523	03-296	"	historic cabin	Frost 1980f		more info
39CU562	03-300	"	hist. beryllium mine	Cassells 1981f		not elig
39CU563	03-301	"	prehist. lithic scatter	"		not elig
39CU564	03-302	"	hist. beryllium mine	"		not elig
39CU565	03-303	"	CCC powder house/dam	"		not elig
39CU566	03-304	"	prehistoric camp (multi-)	"	SDARC	eligible
39CU567	03-305	"	historic sawmill	"		not elig
39CU568	03-306	"	hist. beryllium mine	"		not elig
39CU571		"	historic homestead	Cassells 1981i		not elig
39CU572		"	historic log cabin	"		not elig
39CU573		"	hobo rockshelter	"	SDARC	not elig
39CU597	03-361	Custer	Camp Custer CCC Camp	Cassells 1982d		not elig
39CU598	03-365	"	historic gold mine	"		not elig
39CU599	03-364	"	"	"		not elig
39CU600	03-363	"	"	"		not elig
39CU601	03-362	"	historic dump	"		not elig
39CU602	03-370	"	historic habitation	"		not elig
39CU603	03-366	"	"	"	SDARC	not elig
39CU604	03-367	"	historic lean-to shelter	"		not elig
39CU605	03-368	"	"	"		not elig
39CU606	03-350	"	historic dump	Cassells and Miller 1982k	SDARC	not elig
39CU607	03-351	"	historic habitation	"		not elig
39CU608	03-352	"	historic dump	"		not elig
39CU609	03-353	"	historic habitation	"		not elig
39CU610	03-354	"	historic mine	"		not elig
39CU611	03-355	"	historic habitation	"		not elig
39CU612	03-356	"	historic dump	"		not elig
39CU613	03-357	"	historic mine	"		not elig
39CU614	03-358	"	"	"		not elig
39CU615	03-359	"	historic Indian habitation	Cassells and Miller 1982j		not elig
39CU616	03-360	"	historic habitation	"	SDARC	more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39CU10		Elk Mt.	lithic scatter (camp)	Tratebas 1976h		not elig
39CU11		"	lithic scatter (camp)	"		not elig
39CU16		"	chipping station	Tratebas 1976f	SDARC	more info
39CU17		"	prehistoric camp	"	"	more info
39CU18		"	prehistoric camp	Tratebas 1976h	"	more info
39CU19		"	prehistoric quarry	Tratebas 1976f	"	more info
39CU21		"	prehistoric flakes/ historic foundation	Tratebas 1976i	"	more info
39CU24		"	prehistoric I.F.	Tratebas 1976f	"	not elig
39CU25		"	prehistoric chipping stn	Tratebas 1976j	"	more info
39CU26		"	prehistoric camp	"	"	more info
39CU31		"	prehistoric camp	Haug 1977b	"	more info
39CU95	04-150	"	historic lean-to	Hamilton 1979f		more info
39CU96	04-106	"	prehistoric rock shelter	Hamilton 1978d		more info
39CU98		"	prehistoric I.F.	Moore 1977		not elig
39CU99		"	"	"		not elig
39CU106	04-14	"	historic homestead	Hamilton 1977n		more info
39CU108	04-04	"	historic monument	"		more info
39CU109	04-05	"	historic homestead	"	SDARC	more info
39CU110	04-07	"	historic logging camp	"		more info
39CU112	04-118	"	prehistoric camp	Hamilton 1978d		more info
39CU184	04-140	Elk Mt.	prehistoric game overlook	Hamilton 1978d		more info
39CU199	04-113	"	prehistoric camp/stone al	Hamilton 1978c		more info
39CU217		"	historic cabins	Tratebas 1976h		more info
39CU232	04-105	"	prehistoric rock shelter/ historic foundation	Hamilton 1978d		more info
39CU234	04-120	"	prehistoric camp	Hamilton 1978d		more info
39CU235	04-114	"	historic homestead	"		more info
39CU236	04-117	"	historic habitation	"		not elig
39CU238	04-119	"	prehist. butchering stn.	"		more info
39CU240	10-121	"	prehistoric lithic scatter/ historic homestead	"		more info
39CU241		"	prehistoric camp/ stone alignment	Sigstad and Jolley 1975	SDARC	more info
39CU242		"	prehistoric camp/ stone alignment	"	"	eligible
39CU244		"	prehistoric camp	"	"	more info
39CU249		"	prehistoric lithic scatter/ historic homestead	"	"	pre-more info hist-not elig
39CU250		"	historic water well	"	"	more info
39CU251		"	prehistoric lithic scatter	"	"	eligible
39CU256		"	prehistoric camp	Chevance 1979	"	more info
39CU257		"	prehistoric I.F.	"	"	more info
39CU258		"	prehistoric camp	"	"	more info
39CU259		"	prehistoric I.F.	"	"	not elig
39CU260		"	"	"	"	not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39CU261		Elk Mt.	prehistoric camp	Chevance 1979	SDARC	more info
39CU262		"	prehistoric I.F.	"	"	not elig
39CU263		"	"	"	"	not elig
39CU264		"	prehistoric camp	"	"	more info
39CU265		"	prehistoric camp	"	"	more info
39CU266		"	prehistoric camp/ butchering stn.	Chevance 1978c		more info
39CU267		"	prehistoric lithic scatter	"		more info
39CU268		"	prehistoric lithic scatter	"		more info
39CU269		"	prehistoric lithic scatter/ historic component	"		not elig
39CU270		"	historic I.F.	"		not elig
39CU271		"	prehistoric lithic scatter	"		not elig
39CU372	04-115	"	historic homestead	Hamilton 1978c		more info
39CU396	04-116	"	prehistoric rock shelter/ historic cabin	"		more info
39CU403	04-50	"	historic cow camp	Hamilton 1977x		more info
39CU467	04-112	"	prehistoric lithic scatter	Cassells 1980f		not elig
39CU518	04-157	"	prehistoric camp	Hamilton 1980a		more info
39CU519	04-158	"	prehistoric I.F.	Hamilton 1980c		more info
39CU520	04-163	"	prehistoric I.F.	Hamilton 1980e		more info
39CU521	04-164	"	prehistoric I.F./bones	Hamilton 1980e		more info
39CU526	04-107	"	historic logging camp	Hamilton 1978b		more info
39CU552	04-174	Elk Mt.	prehistoric I.F.	Hamilton 1981d	USFS	more info
39CU621	04-186	"	prehistoric camp	Hamilton 1982d		more info
39CU622		"	prehistoric chipping stn	F. Miller 1982	SDARC	more info
39CU625	04-182	"	prehistoric camp	Hamilton 1982e	"	more info
39CU626	04-180	"	prehistoric camp/ historic logging camp	"		more info
39CU627	04-183	"	prehistoric chipping stn	"		more info
39CU628	04-184	"	prehistoric camp/ historic ranch	"	?	more info
39CU633	04-188	"	prehistoric I.F.	Hamilton 1983c		not elig
39CU634	04-189	"	prehistoric lithic scatter/ historic sawmill	"		more info
39CU650	04-191	"	historic habitation	Hamilton 1983e		not elig
39CU654		"	prehistoric chipping stn	Girouard 1983c		not elig
39FA8		"	Stevens Ranch rockshelters	Haug 1977b	SDARC	elig?
39FA88		"	rock art/prehistoric I.F.	"	"	elig
39FA101		"	prehistoric lithic scatter	Sigstad and Jolley 1975	"	more info
39FA103		"	prehistoric quarry	"		more info
39FA106		"	prehistoric camp	Tratebas 1976j		more info
39FA107		"	prehistoric camp	"		more info
39FA150		"	prehistoric camp/ rock mosaic	Haug 1977b	SDARC	more info
39FA174		"	prehistoric lithic scatter	Girouard 1983c		not elig
39FA238		"	prehistoric I.F.	Haug 1977b		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39FA239		Elk Mt.	prehistoric I.F.	Haug 1977b		not elig
39FA240		"	prehistoric camp	"	SDARC	more info
39FA241		"	prehistoric I.F.	"		not elig
39FA242		"	"	"		not elig
39FA244		"	rock art	"		elig
39FA245		"	prehistoric I.F.	"		not elig
39FA247		"	prehistoric camp	"	SDARC	more info
39FA248		"	prehistoric I.F.	"		not elig
39FA249		"	"	"		not elig
39FA251		"	prehistoric lithic scatter	Sigstad and Jolley 1975	SDARC	more info
39FA252		"	prehistoric lithic scatter	Sigstad and Jolley 1975/Girouard 1983c	"	more info
39FA256		"	"	Sigstad and Jolley 1975	"	more info
39FA257		"	"	"	"	more info
39FA258		"	prehistoric chipping stn	"	"	more info
39FA260		"	prehistoric camp	"	"	more info
39FA261		"	prehistoric hunting camp	"	"	more info
39FA262		"	"	"	"	more info
39FA274		"	prehistoric lithic scatter	Sigstad and Jolley 1975		more info
39FA276		"	prehistoric camp	Haug 1977c		more info
39FA277		"	prehistoric I.F./rock art	Sigstad and Jolley 1975		more info
39FA278		Elk Mt.	prehistoric lithic scatter	Sigstad and Jolley 1975	SDARC	more info
39FA279		"	prehistoric camp	"	"	more info
39FA280		"	"	"	"	more info
39FA281		"	"	"	"	more info
39FA282		"	"	"	"	more info
39FA283		"	prehistoric butchering stn.	"	"	more info
39FA284		"	prehistoric lithic scatter	"	"	more info
39FA285		"	"	"	"	more info
39FA286		"	prehistoric camp	"	"	more info
39FA287		"	"	"	"	more info
39FA300		"	prehistoric I.F.	Haug 1977a	"	not elig
39FA301		"	"	"	"	not elig
39FA302		"	prehistoric camp	"	"	eligible
39FA303		"	"	"	"	more info
39FA304		"	"	"	"	more info
39FA305		"	rock art	"		eligible
39FA306		"	prehistoric camp	"	SDARC	more info
39FA307		"	"	"	"	more info
39FA308		"	"	"	"	more info
39FA309		"	prehistoric I.F.	"	"	not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39FA310		Elk Mt.	prehistoric I.F.	Haug 1977a		not elig
39FA311		"	"	"		more info
39FA312		"	"	"	SDARC	not elig
39FA313		"	prehistoric rock shelter	"	"	eligible
39FA314		"	prehistoric I.F.	"		not elig
39FA315		"	prehistoric camp	"	"	eligible
39FA316		"	prehistoric rock shelter, rock art, chipping stn.	"	"	eligible
39FA317		"	prehistoric I.F.	Haug 1977b		not elig
39FA318		"	"	"		not elig
39FA319		"	prehistoric camp	"	SDARC	not elig
39FA320		"	prehistoric I.F.	"		not elig
39FA321		"	prehistoric I.F., rock art	"	SDARC	eligible
39FA322		"	prehistoric I.F.	"		not elig
39FA323		"	"	"		not elig
39FA324		"	"	"		not elig
39FA325		"	"	"		not elig
39FA326		"	"	"		not elig
39FA327		"	"	"	SDARC	not elig
39FA328		"	"	"		not elig
39FA329		"	"	"		not elig
39FA330		Elk Mt.	prehistoric I.F.	Haug 1977b		not elig
39FA331		"	"	"		not elig
39FA332		"	prehistoric camp	"	SDARC	not elig
39FA334		"	prehistoric I.F.	"		not elig
39FA335		"	prehistoric camp	"	SDARC	more info
39FA336		"	prehistoric I.F.	"		not elig
39FA337		"	"	"		not elig
39FA338		"	prehistoric camp	"	SDARC	more info
39FA339		"	prehistoric I.F.	"		not elig
39FA340		"	prehistoric chipping stn.	"	SDARC	not elig
39FA341		"	prehistoric camp, rock mosaic	"	"	more info
39FA343		"	prehistoric camp	"	"	more info
39FA344		"	prehistoric I.F.	"		not elig
39FA345		"	"	"		not elig
39FA346		"	"	"		not elig
39FA347		"	"	"		not elig
39FA348		"	"	"		not elig
39FA349		"	"	"		not elig
39FA350		"	prehistoric camp	"	SDARC	not elig
39FA380		"	"	"	SDARC	more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39FA386		Elk Mt.	prehistoric camp	Haug 1977b	SDARC	not elig
39FA387		"	prehistoric I.F.	"		not elig
39FA388		"	"	"		not elig
39FA390		"	"	"		not elig
39FA392		"	prehistoric camp	Haug 1977b, Chevance 1978b	SDARC	more info
39FA393		"	"	"	"	more info
39FA394		"	"	"	"	more info
39FA395		"	prehistoric rock shelter, rock art	"		eligible
39FA396		"	prehistoric camp	"	"	more info
39FA397		"	"	"	"	more info
39FA398		"	prehistoric chipping stn.	"	"	more info
39FA399		"	prehistoric camp	Haug 1977b	"	more info
39FA401		"	prehistoric camp	"	"	more info
39FA402		"	"	"	"	more info
39FA403		"	prehistoric I.F.	"		not elig
39FA404		"	prehistoric camp	"	"	more info
39FA405		"	"	"	"	more info
39FA406		"	"	"	"	more info
39FA407		"	"	"	"	more info
39FA408		"	"	"	"	more info
39FA409		Elk Mt.	prehistoric camp	Haug 1977c		more info
39FA410		"	prehistoric chipping stn.	"		more info
39FA411		"	prehistoric I.F.	"		not elig
39FA412		"	historic foundation	"		more info
39FA413		"	Camp Collier (CCC)	"		more info
39FA414		"	prehistoric locus	"		not elig
39FA415		"	historic Edgemont quarry	"		more info
39FA416		"	prehistoric camp	"		more info
39FA417		"	"	"		more info
39FA418		"	"	"		more info
39FA420		"	"	"		more info
39FA421		"	prehistoric I.F.	"		not elig
39FA422		"	prehistoric camp	"		more info
39FA423		"	"	"		more info
39FA424		"	prehistoric I.F.	"		not elig
39FA425		"	prehistoric camp	"		more info
39FA426		"	"	"		more info
39FA427		"	prehistoric I.F.	"		not elig
39FA428		"	prehistoric chipping stn.	"		more elig
39FA436		"	prehistoric I.F.	Haug 1977b		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recc.
39FA437		Elk Mt.	prehistoric camp	Haug 1977b	SDARC	more info
39FA438		"	prehistoric I.F.	"		not elig
39FA439		"	"	"		not elig
39FA441		"	prehistoric camp	Haug 1977b	SDARC	more info
39FA442		"	"	"	"	more info
39FA443		"	"	"	SDARC	more info
39FA446		"	rock art	"		eligible
39FA447		"	prehistoric rock shelter, rock art	"		eligible
39FA448		"	"	"		more info
39FA449		"	prehistoric camp	"	SDARC	more info
39FA451		"	prehistoric I.F.	Haug 1977c		more info
39FA452		"	prehistoric I.F.	"		not elig
39FA453		"	"			not elig
39FA454		"	prehistoric camp	"	SDARC	not elig
39FA455		"	prehistoric I.F.	"		not elig
39FA456		"	prehistoric rock shelter	"	SDARC	more info
39FA457		"	prehistoric camp	"		more info
39FA458		"	"	"	SDARC	more info
39FA462		"	prehistoric I.F.	Chevance 1980	SDARC	not elig
39FA463		"	"	"	"	not elig
39FA464		"	prehistoric camp	Chevance 1980	SDARC	more info
39FA465		"	prehistoric I.F.	"	"	not elig
39FA466		"	"	"	"	not elig
39FA468		"	"	"	"	not elig
39FA469		"	prehistoric chipping stn.	"	SDARC	more info
39FA482		"	prehistoric chipping stn.	Buechler 1980a	SDARC	more info
39FA483		"	prehistoric hearths	"	"	more info
39FA484		"	prehistoric camp	"	"	eligible
39FA485		"	prehistoric I.F.	"	"	not elig
39FA487		"	"	Chevance 1979		not elig
39FA500		"	"	"		not elig
39FA501		"	"	"		not elig
39FA502		"	prehistoric chipping stn.	"	SDARC	more info
39FA503		"	prehistoric I.F.	"		not elig
39FA504		"	prehistoric chipping stn.	"		more info
39FA505		"	prehistoric I.F.	"		not elig
39FA506		"	prehistoric camp	"	SDARC	more info
39FA507		"	prehistoric I.F.	"		not elig
39FA508		"	prehistoric chipping stn.	"	SDARC	more info
39FA509		"	prehistoric I.F.	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39FA510		Elk Mt.	prehistoric camp	Chevance 1979	SDARC	more info
39FA511		"	prehistoric I.F.	"		not elig
39FA512		"	"	"		not elig
39FA513		"	prehistoric chipping stn	"	SDARC	more info
39FA514		"	prehistoric I.F.	"		not elig
39FA515		"	"	"		not elig
39FA516		"	"	"		not elig
39FA517		"	"	"		not elig
39FA518		"	prehistoric camp	"		not elig
39FA519		"	prehistoric I.F.	"		not elig
39FA522		"	prehistoric camp	"	SDARC	more info
39FA523		"	"	"	"	more info
39FA524		"	prehistoric I.F.	"		not elig
39FA525		"	"	"		not elig
39FA526		"	"	"		not elig
39FA529		"	prehistoric camp	"	SDARC	more info
39FA530		"	"	"	"	more info
39FA531		"	"	"	"	more info
39FA532		"	prehistoric chipping stn.	"	"	more info
39FA539		"	prehistoric quarry	"	"	more info
39FA540		Elk Mt.	prehistoric I.F.	Chevance 1980	SDARC	not elig
39FA541		"	"	"	"	not elig
39FA542		"	rock art	"		eligible
39FA543		"	prehistoric I.F.	"	SDARC	not elig
39FA748		"	historic mining camp	Lippincott 1982		not elig
39FA749		"	prehistoric chipping stn.	"		more info
39FA777		"	prehistoric lithic scatter	Girouard 1983c		not elig
39FA778		"	historic habitation	"		not elig
39FA779		"	prehistoric I.F.	"		not elig
39FA780		"	historic habitation	"		not elig
39LA192	04-151	"	historic homestead	Hamilton 1979d		more info
39PN47		"	prehistoric camp	Marcucci 1977	SDARC	more info
39PN77		"	"	McKay 1975a		more info
39PN78		"	"	"		more info
39PN79		"	"	"		more info
39PN90		"	"	Tratebas and Vagstad 1979	SDARC	more info
39PN97		"	prehistoric hunting camp	"	"	more info
39PN99		"	prehistoric camp	Tratebas 1976h		more info
39FA100		"	"	"		more info
39PN150	04-178	"	prehistoric chipping stn.	Dalla 1978c, Hamilton 1981g		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39PN166		Elk Mt.	prehistoric I.F.	Dalla 1978c, Hamilton 1982a	SDARC	not elig
39PN174		"	prehistoric lithic scatter	Hamilton 1977q		more info
39PN175		"	historic hand dug well	Hamilton 1977q		not elig
39PN186	04-155	"	prehistoric chipping stn.	Hamilton 1978m	SDARC	more info
39PN217	04-03	"	prehistoric camp, historic CCC camp, homestead	Hamilton 1977g	"	more info
39PN218	04-11	"	prehistoric camp, historic homestead	Hamilton 1977l	"	more info
39PN219	04-10	"	prehistoric camp	"	"	more info
39PN223	04-13	"	prehistoric camp, USFS Ranger Station	Hamilton 1977g	"	more info
39PN224	04-12	"	historic logging camp	Hamilton 1977l		more info
39PN225	04-09	"	historic ranch	"		more info
39PN226	04-08	"	historic homestead	"		more info
39PN228	04-17	"	historic well house	Hamilton 1977r		more info
39PN239	04-15	"	prehistoric camp	Hamilton 1977m	"	more info
39PN242	04-06	"	historic homestead	Tratebas 1976i		more info
39PN376	04-156	"	cave/prehistoric camp	Hamilton 1978m	"	more info
39PN422	04-141	"	prehistoric lithic scatter	Hamilton 1978h		more info
39PN423	04-142	"	prehistoric chipping stn	"		more info
39PN424	04-143	"	historic sawmill	"		more info
39PN425	04-152	"	historic homestead	Hamilton 1979c		more info
39PN426	04-153	"	prehistoric camp, historic tower	"		more info
39PN427	04-154	Elk Mt.	historic homestead	Hamilton 1979c		more info
39PN436	04-02	"	prehist. lithic scatter	Hamilton 1977e		more info
39PN440	04-144	"	prehistoric camp, historic ranch	Hamilton 1979a	USFS	more info
39PN441	04-145	"	rock pile?	"		more info
39PN442	04-146	"	historic logging camp	"		more info
39PN443	04-147	"	historic saw	"		more info
39PN444	04-148	"	prehist. lithic scatter	"		more info
39PN445	04-149	"	prehistoric I.F.	Hamilton 1979e	USFS	not elig
39PN446	04-159	"	prehistoric flakes	Hamilton 1980d		more info
39PN447	04-160	"	bones (prehist?)	Hamilton 1980m		more info
39PN448	04-161	"	prehistoric camp	"		more info
39PN449	04-162	"	"	"		more info
39PN450	04-165	"	prehist. lithic scatter	"		more info
39PN451	04-166	"	"	"		more info
39PN463	04-168	"	historic still	"		more info
39PN464	04-169	"	prehist. lithic scatter, historic ranch	Hamilton 1980l	SDARC	more info
39PN466	04-171	"	prehistoric I.F.	"	SDARC	not elig
39PN467	04-172	"	historic logging camp	"		more info
39PN468	04-173	"	historic ranch	"		more info
39PN469	04-176	"	historic homestead	Hamilton 1981g		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recc.
39PN34		Harney	hist. vegetation patterns	McKay 1975b		more info
39PN35		"	historic sawmill	"		more info
39PN36		"	"	"		more info
39PN41		"	Stan Penn Mine	McKay 1975c		more info
39PN46		"	historic hab. district	Tratebas 1977b		more info
39PN50		"	historic habitation	Boen 1977d		more info
39PN51		"	isol. historic fireplace	"		more info
39PN80		"	prehistoric camp	Tratebas 1978a	SDARC	more info
39PN81		"	"	"	"	more info
39PN82		"	"	"	"	more info
39PN83		"	"	"	"	more info
39PN84		"	"	"	"	more info
39PN85		"	"	"	"	more info
39PN86		"	prehistoric camp	"	"	more info
39PN87		"	"	"	"	more info
39PN88		"	prehist. quarry/knapping	"	"	more info
39PN89		"	prehist camp/chipping stn	"	"	more info
39PN90		"	prehist. camp (multi-comp)	Tratebas 1978a, Tratebas and Vagstad 1979	"	more info
39PN91		"	prehist. quarry/chipping stn	Tratebas 1978a	SDARC	more info
39PN92		"	"	"	"	not elig
39PN93		Harney	prehist. quarry/chipping stn	Tratebas 1978a	SDARC	not elig
39PN94		"	prehistoric camp	"	"	more info
39PN95		"	prehist. chipping stn.	"	"	not elig
39PN96		"	prehistoric camp	"	"	more info
39PN97		"	"	"	"	more info
39PN98		"	"	"	"	more info
39PN109	06-108	"	prehist. chipping stn	F. Miller 1981a	"	more info
39PN110		"	prehistoric I.F.	"		not elig
39PN113		"	prehistoric camp	Boen 1977d		more info
39PN114		"	prehistoric camp	Boen 1977c		more info
39PN122		"	prehistoric I.F.	Tratebas 1978a		not elig
39PN123		"	"	"		not elig
39PN124		"	"	"		not elig
39PN125		"	"	"		not elig
39PN126		"	"	"		not elig
39PN127		"	"	"		not elig
39PN128		"	"	"		not elig
39PN129		"	"	"		not elig
39PN130		"	"	"		not elig
39PN131		"	"	"		not elig
39PN132		"	"	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39PN133		Harney	prehistoric I.F.	Tratebas 1978a		not elig
39PN134		"	"	"		not elig
39PN135		"	"	"		not elig
39PN136		"	"	"		more info
39PN137		"	"	"		not elig
39PN138		"	"	"		not elig
39PN139		"	"	"		not elig
39PN141		"	"	Dalla 1978c		not elig
39PN143		"	"	"		not elig
39PN144		"	prehist. chipping stn.	"		not elig
39PN145		"	prehist. rock alignment	"		more info
39PN146		"	prehist. chipping stn.	"		more info
39PN147		"	prehistoric I.F.	"		not elig
39PN151		"	historic habitation	Boen 1977d		more info
39PN152		"	"	"		more info
39PN153		"	"	"		more info
39PN154		"	"	"		more info
39PN155		"	"	"		more info
39PN156		"	hist. mine and mine camp	"		more info
39PN157		"	historic habitation	"		more info
39PN159		Harney	historic log pile/dump	Chevance 1979a		more info
39PN163		"	prehistoric I.F.	Dalla 1978c		not elig
39PN164		"	"	"		not elig
39PN165		"	"	"		not elig
39PN169		"	historic homestead	Isaman 1978n		more info
39PN170	06-14	"	historic dump	Isaman 1978d		not elig
39PN172	06-16	"	historic log cabin	Isaman 1978c		more info
39PN173	06-47	"	historic foundation	Isaman 1978l		more info
39PN183	06-44	"	prehistoric quarry/camp	Isaman 1978j	SDARC	more info
39PN190	06-43	"	prehistoric I.F.		SDARC	not elig
39PN191	06-51	"	historic foundation/well	Isaman 1979g		more info
39PN205		"	prehistoric camp	Tratebas 1976b	SDARC	more info
39PN206		"	prehistoric I.F.	"		not elig
39PN207		"	prehistoric camp	"	SDARC	more info
39PN208		"	"	"	"	more info
39PN209		"	prehistoric I.F.	"		not elig
39PN210		"	prehistoric camp	"	SDARC	more info
39PN211		"	"	"	SDARC	more info
39PN212		"	"	"	SDARC	more info
39PN213		"	prehistoric I.F.	"		not elig

State Site #	USPS Site #	USPS Distr.	Description	Reference	Where Curated	N.R. Recd.
39PN214		Harney	prehistoric camp	Tratebas 1976b	SDARC	more info
39PN229	06-06	"	prehistoric I.F.	Isaman 1977h		not elig
39PN230	06-03	"	hist. sawmill/cabins	Isaman 1977d		more info
39PN240	06-08	"	prehistoric I.F.	Isaman 1977j		not elig
39PN241	06-07	"	"	Isaman 1977i		not elig
39PN243	06-01	"	historic foundation	Isaman 1977a		more info
39PN244	06-02	"	prehistoric I.F.	"	SDARC	not elig
39PN245	06-04	"	"	"	SDARC	not elig
39PN246	06-05	"	hist. cabin foundations	"		more info
39PN301		"	hist. mining site	Dalla 1978c		more info
39PN302		"	historic cabin	"		more info
39PN303		"	historic mining camp	"		more info
39PN304		"	historic cabin	"		more info
39PN305		"	Mystic townsite/R.R. terminal	"		more info
39PN306		"	historic cabin	"		more info
39PN307		"	historic mining camp	Dalla 1978c, Cassells 1981a		not elig
39PN317	06-21	"	prehistoric I.F.	Eckles 1978c		not elig
39PN318	06-19	"	historic homestead	"		not elig
39PN319	06-20	"	prehistoric chipping stn	"		not elig
39PN320	06-22	"	prehistoric I.F.	"		not elig
39PN323	06-23	Harney	historic log cabin	Eckles 1978c		not elig
39PN325	06-29	"	prehistoric I.F.	"		not elig
39PN326	06-24	"	prehistoric camp	"		more info
39PN341	06-10	"	historic cabin	Isaman 1978g		more info
39PN342	06-11	"	historic settlement	"		more info
39PN343	06-12	"	historic log cabin	"		more info
39PN344	06-13	"	"	"		more info
39PN345	06-18	"	"	Isaman 1978g, D. Miller 1982		more info
39PN349	06-19	"	"	Isaman 1978g		more info
39PN346	06-40	"	Gold Mt. Mine	"		more info
39PN347	06-41	"	historic dugout hab.	"		more info
39PN348	06-42	"	historic foundation	"		more info
39PN383	06-60	"	historic log-encl. spring	Cassells 1980d		not elig
39PN384	06-61	"	historic dump/corral(?)	"		not elig
39PN385	06-52	"	historic log-encl. spring	Cassells 1980e		not elig
39PN386	06-53	"	historic habitation	"		not elig
39PN387	06-54	"	prehistoric rockshelter	"		more info
39PN388	06-55	"	"	"		more info
39PN389	06-56	"	historic habitation	"		not elig
39PN390	06-57	"	historic log-encl. spring	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39PN391	06-58	Harney	historic log-encl. spring	Cassells 1980e		not elig
39PN392	06-59	"	prehistoric rockshelter	"		more info
39PN428	06-45	"	historic log foundation	Isaman 1978j		not elig
39PN429	06-46	"	"	"		not elig
39PN430	06-49	"	historic log cabin	Isaman 1979e		more info
39PN431	06-50	"	prehistoric camp	"		more info
39PN432	06-51	"	hist. foundation/well	Isaman 1979g		more info
39PN456	06-102	"	historic log cabin	Isaman 1980b		more info
39PN457	06-103	"	historic foundation	"		more info
39PN458	06-104	"	historic log cabin	"		more info
39PN460	06-105	"	Poverty Gulch Mine Camp	Lazio 1980b, Cassells & Miller 1982h		eligible
39PN461	06-106	"	Myersville Mine Camp	"		eligible
39PN462	06-107	"	Alta Mine Camp	"		eligible
39PN474	06-105	"	historic log cabin	Cassells 1981a		more info
39PN475	06-106	"	historic log-encl spring	"		not elig
39PN476	06-107	"	"	"		not elig
39PN477	06-109	"	historic homestead	"		not elig
39PN518		"	historic mine	Larson, et al 1983		eligible
39PN519	06-110	"	historic habitation	Cassells & Miller 1982f		not elig
39PN520	06-111	"	historic mine	"		not elig
39PN521	06-112	Harney	historic mine	Cassells and Miller 1982f		not elig
39PN522	06-113	"	"	"		not elig
39PN523	06-114	"	historic habitation	"		not elig
39PN524	06-115	"	historic mine	"		not elig
39PN525	06-116	"	historic habitation	"		not elig
39PN526	06-117	"	historic mine	"		not elig
39PN564	06-131	"	historic habitation	Cassells and Miller 1982g		not elig
39PN565	06-132	"	prehistoric I.F.	"		not elig
39PN566	06-133	"	"	"		not elig
39PN567	06-134	"	prehist. lithic scatter	"		more info
39PN568	06-135	"	"	"	SDARC	not elig
39PN569	06-136	"	stone circ (prob mod)	"		not elig
39PN570	06-137	"	historic dump	"		not elig
39PN571	06-138	"	prehistoric I.F.	"		not elig
39PN572	06-139	"	historic habitation	"		not elig
39PN573	06-140	"	prehistoric I.F.	"		not elig
39PN574	06-141	"	WPA camp	"		not elig
39PN575	06-142	"	Lookout Mining Camp	Cassells and Miller 1982f		eligible
39PN576	06-143	"	historic mine/habitation	"		not elig
39PN577	06-144	"	"	"		not elig

[illegible]

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recs.
39LA9		Nemo	historic Buskala Ranch	McKay 1975e		more info
39LA10		"	historic sawmill	"		more info
39LA11		"	historic French Ranch	McKay 1975d		more info
39LA12		"	town of Gregory	"		more info
39LA18		"	Lucky Strike Schoolhouse	Tratebas 1977e		more info
39LA19		"	historic mine and mill	"		more info
39LA22		"	historic log cabin	"		more info
39LA23		"	historic sawmill	"		more info
39LA24		"	historic frame structure	"		more info
39LA26		"	stone foundation (hist.)	Tratebas and Boen 1977a		more info
39LA28		"	hist. stone enclosure,fdn	"		more info
39LA39	08-26	"	historic habitation/grave	Lindstrom 1977j		more info
39LA40	08-25, 08-22	"	prehistoric camp	Lindstrom 1977k		more info
39LA43		"	historic depressions	West 1976c		more info
39LA44		"	prehistoric flakes	"		more info
39LA50		"	prehist. lithic scatter	Legard and Miller 1982	SDARC	more info
39LA52	08-05	"	prehist. lithic scatter, Park Creek CCC camp	Lindstrom 1977f	SDARC	more info
39LA53	08-02	"	prehist. lithic scatter	Lindstrom 1977d		more info
39LA54	08-03	"	"	Lindstrom 1977e	SDARC	more info
39LA55	08-04	"	historic dump	"	SDARC	more info
39LA56	08-01	Nemo	historic foundations	Lindstrom 1977c		more info
39LA57	08-08	"	prehistoric I.F.	"	SDARC	not elig
39LA68	08-06	"	historic log foundation	Lindstrom 1977g		more info
39LA69	08-09	"	historic stone foundation	"		more info
39LA70	08-10	"	Hist. log foundation,dump	"		more info
39LA71	08-11	"	historic cabin foundation	"		more info
39LA72	08-14	"	prehistoric I.F.	"	SDARC	not elig
39LA73	08-15	"	historic mine	"		more info
39LA74	08-16	"	hist. log and stone fndn.	"		more info
39LA75	08-17	"	historic mining shack	"		more info
39LA76	08-18	"	hist. log cabin remains	"		more info
39LA77	08-12	"	historic depression	"	SDARC	more info
39LA86	08-29	"	Galena Cemetary	Lindstrom 1977m		more info
39LA89	08-45	"	prehistoric camp/quarry	Lindstrom 1978t		more info
39LA90	08-47	"	prehistoric lithic scatter	"		more info
39LA91	08-48	"	prehistoric camp	"		more info
39LA92	08-33	"	historic dugout habitation	Lindstrom 1978r		not elig
39LA93	08-32	"	historic cabin foundation	"		not elig
39LA94	08-34	"	prehistoric chipping stn	"	SDARC	not elig
39LA95	08-35	"	historic homestead/mine	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39LA108		Nemo	prehistoric flakes	Tratebas 1976c		not elig
39LA111		"	prehistoric I.F.	Tratebas 1977c		not elig
39LA117		"	prehistoric camp	Boen 1977b		more info
39LA118		"	prehistoric I.F.	"		not elig
39LA119		"	prehistoric camp	"		more info
39LA120		"	"	"		more info
39LA147	08-28	"	historic habitation/mine	Lindstrom 1977n		more info
39LA148	08-27	"	"	"		more info
39LA160		"	historic dump/mine pits	Lazio 1979		more info
39LA161		"	historic foundation	"		more info
39LA174		"	prehist lithic scatter	Moore 1982		more info
39LA175		"	"	"		more info
39LA176		"	"	"		more info
39LA177		"	"	"		more info
39LA178		"	"	"		more info
39LA179		"	"	"		more info
39LA180		"	"	"		more info
39LA181		"	"	"		more info
39LA191	08-49	"	historic cabin	Lindstrom 1979j		more info
39LA193	08-66	"	historic mine/mill	Lindstrom 1979k		more info
39LA194	08-70	Nemo	historic mine/habitation	Lindstrom 1979k		more info
39LA202	08-36	"	historic foundation/dump	Wichman 1978b		more info
39LA203	08-37	"	historic habitation	"		not elig
39LA204	08-38	"	prehist. lithic scatter	"		more info
39LA205	08-39	"	"	"		more info
39LA206	08-40	"	prehistoric I.F.	"		not elig
39LA207	08-41	"	historic foundation/struc	"		not elig
39LA208	08-42	"	prehistoric I.F.	"		not elig
39LA209	08-43	"	historic structure/mine	"		not elig
39LA210	08-44	"	historic habitation	"		more info
39LA233	08-72	"	historic dugout cabin/hab	Lindstrom 1980g		more info
39LA234	08-73	"	historic dump	Lindstrom 1981a		more info
39LA235	08-74	"	historic cabin remains	Lindstrom 1981d		more info
39LA237	08-75	"	historic cabin/mine shaft	Lindstrom 1981e		more info
39LA238		"	prehistoric I.F.	Cassells and Miller 1982d		not elig
39LA239		"	prehistoric lithic scatter	Cassells and Miller 1982c		not elig
39LA244		"	historic cabin	Legard and Miller 1982	SDARC	more info
39LA245		"	prehistoric lithic scatter	"		more info
39LA246		"	historic prospect/habita.	"		more info
39LA247		"	prehistoric camp	"		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39LA248		Nemo	prehistoric lithic scatter	Legard and Miller 1982		not elig
39LA249		"	"	"		more info
39LA250		"	prehistoric camp	"		more info
39LA251		"	prehist. lithic scatter	"		more info
39LA252		"	"	"		more info
39LA253		"	historic dump	"		not elig
39LA254		"	prehistoric camp, historic bridge	"	SDARC	more info
39LA255		"	historic dump	"		not elig
39LA256		"	prehist. lithic scatter	"	SDARC	not elig
39LA257		"	"	"		more info
39LA258		"	prehistoric camp	"	SDARC	more info
39LA259		"	prehist. lithic scatter, quarry	"	SDARC	more info
39LA260		"	"	"		not elig
39LA261		"	"	"		more info
39LA262		"	prehist lithic scatter	"		more info
39LA263		"	prehistoric camp, historic dump	"	SDARC	more info
39LA264		"	prehistoric lithic scatter	"		not elig
39LA265		"	"	"	SDARC	not elig
39LA266	08-79	"	"	Lindstrom 1982k	Nemo Ranger Distr.	more info
39LA267	08-80	"	"	"	"	more info
39LA268	08-81	Nemo	Prehistoric I.F.	Lindstrom 1982k	Nemo Ranger Distr.	more info
39LA269		"	prehistoric I.F.	Legard and Miller 1982		not elig
39LA270		"	"	"		not elig
39LA271		"	"	"		not elig
39LA272		"	"	"		not elig
39LA273		"	"	"		not elig
39LA274		"	"	"		not elig
39LA275		"	"	"		not elig
39LA276		"	"	"		not elig
39LA277		"	"	"		not elig
39LA278		"	"	"		not elig
39LA279		"	"	"		not elig
39LA280		"	"	"		not elig
39LA281		"	"	"		not elig
39LA282		"	"	"		not elig
39LA283		"	"	"		not elig
39LA284		"	"	"		not elig
39LA285		"	"	"		not elig
39LA286		"	"	"	SDARC	not elig
39LA287		"	"	"		not elig

[illegible]

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39PN37		Pactola	historic cabin	McKay 1975		more info
39PN38		"	Canyon City hist dist.	"		eligible
39PN39		"	The Lane Cabin	"		more info
39PN40		"	historic cabin	"		more info
39PN43		"	Diana Mining hist dist	"		eligible
39PN45		"	historic habitation	Tratebas 1976		more info
39PN47		"	prehist.(McKean) camp?	Marcucci 1977		
39PN48		"	historic cabin	Boen 1977		more info
39PN49		"	historic frame shack	"		more info
39PN103		"	prehistoric camp	Tratebas 1977		more info
39PN104		"	prehistoric i.f.	"		not elig.
39PN105		"	prehistoric i.f.	"		not elig.
39PN106		"	prehistoric camp	"		more info
39PN107		"	prehist. knapping stn.	"		more info
39PN111		"	prehistoric i.f.	Boen 1977		not elig.
39PN112		"	prehistoric i.f.	"		not elig.
39PN140		"	prehist. lithic scatter	Boen 1978		more info
39PN158		"	Placerville Mine Camp	Tratebas 1978b		more info
39PN160	09-41	"	prehist. lithic scatter	Popelish 1978a		more info
39PN171	09-42	"	hist. dugout habitation	Sommers 1978a		more info
39PN177	09-125	"	prehistoric I.F.	Slay 1979, Cassells 1980b		not elig
39PN178	09-140	Pactola	Dakota Calumet Mine/Mill	Slay 1979 Cassells, Miller 1982b		eligible
39PN181	09-71	"	historic homestead	Sommers 1979c		not elig.
39PN182	09-72	"	prehistoric camp	"		more info
39PN185	09-102	"	mining operation	Sommers 1979e		not elig.
39PN189	09-103	"	Sina Glenn Mine	"		more info
39PN192	09-74	"	prehistoric camp	Sommers 1979d	SDARC	more info
39PN215		"	Saxon Placer habitation	West 1976		more info
39PN220	09-03	"	log cabin foundation	Lyon 1977d		more info
39PN221	09-04	"	log cabin/mine	"		more info
39PN231	09-06	"	historic dugout	Lyon 1977c		not elig.
39PN232	09-07	"	hist. dugout, dump	"		more info
39PN233	09-32	"	prehist. lithic scatter	Popelish 1978		more info
39PN234	09-39	"	prehist. i.f.	"		not elig.
39PN235	09-36	"	prehist. i.f.	"		not elig.
39PN236	09-33	"	prehist. i.f.	"		not elig.
39PN237	09-37	"	prehist. i.f.	"		not elig.
39PN238	09-05	"	historic cabin	Lyon 1977b		more info
39PN247	09-17	"	prehist. i.f.	Popelish 1978		not elig.
39PN248	09-19	"	prehist. lithic scatter	"		not elig.
39PN249	09-22	"	prehist. lithic scatter	"		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recc.
39PN270	09-21	Pactola	prehist. lithic scatter	Popelish 1978a		more info
39PN271	09-20	"	"	"		more info
39PN272	09-79	"	prehistoric site	Wichman 1978a		more info
39PN274	09-80	"	prehistoric I.F.	"		not elig
39PN275	09-45	"	prehistoric site	"		more info
39PN276	09-82	"	prehist. quarry?/scatter?	"		more info
39PN277	09-51	"	prehist. lithic scatter	Groenfeldt and Popelish 1978		not elig
39PN278	09-60	"	prehistoric I.F.	"		not elig
39PN279	09-64	"	prehist. rock shelter	"		more info
39PN280	09-54	"	prehist. lithic scatter	"		not elig
39PN281	09-55	"	"	"		not elig
39PN282	09-58	"	prehist rock shelter/scatter	"		more info
39PN283	09-83	"	prehist site	Wichman 1978a		more info
39PN284	09-69	"	prehistoric quarry	Groenfeldt and Popelish 1978		not elig
39PN285	09-63	"	prehistoric rock shelter	"		more info
39PN286	09-70	"	prehistoric site	Wichman 1978a		more info
39PN287	09-52	"	prehist. rock shelter	Groenfeldt and Popelish 1978		more info
39PN288	09-48	"	prehistoric I.F.	"		not elig
39PN289	09-59	"	prehist. lithic scatter	"		more info
39PN290	09-61	"	prehist. rock shelter	"		more info
39PN250	09-18	Pactola	historic homestead?	Popelish 1978a		more info
39PN251	09-29	"	prehist. lithic scatter	"		more info
39PN252	09-14	"	"	"		more info
39PN253	09-27	"	hist. mining structures	"		not elig
39PN254	09-42	"	historic mine	"		not elig
39PN255	09-13	"	historic homestead	"		more info
39PN256	09-35	"	historic log house	"		more info
39PN257	09-30	"	historic frame house	"		more info
39PN258	09-23	"	historic homestead	"		more info
39PN259	09-15	"	prehist. lithic scatter	"		more info
39PN260	09-16	"	"	"		more info
39PN261	09-34	"	hist. structures	"		more info
39PN262	09-38	"	historic homestead	"		more info
39PN263	09-40	"	historic structure	"		more info
39PN264	09-43	"	prehistoric I.F.	"		not elig
39PN265	09-44	"	prehist. lithic scatter	"		more info
39PN266	09-28	"	"	"		more info
39PN267	09-31	"	"	"		more info
39PN268	09-24	"	"	"		more info
39PN269	09-25	"	prehistoric I.F.	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39PN291	09-49	Pactola	prehistoric I.F.	Groenfeldt and Popelish 1978		more info
39PN292	09-26	"	historic structure	Popelish 1978a		not elig
39PN293	09-77	"	historic habitation	Wichman 1978a		not elig
39PN294	09-46	"	"	Groenfeldt and Popelish 1978		not elig
39PN295	09-47	"	prehist. lithic scatter	"		more info
39PN296	09-50	"	historic structure	"		not elig
39PN297	09-53	"	prehist. rock shelter	"		more info
39PN298	09-56	"	prehistoric I.F.	"		not elig
39PN299	09-57	"	prehist. rock shelter	"		more info
39PN300	09-62	"	"	"		more info
39PN313	09-65	"	"	"		more info
39PN314	09-66	"	"	"		more info
39PN315	09-67	"	"	"		more info
39PN316	09-68	"	historic foundation	"		not elig
39PN321	09-81	"	historic Norris Peak Lookout (USFS)	Wichman 1978a		not elig
39PN322		"	historic John Thatcher sawmill	"		more info
39PN350	09-75	"	prehistoric chipping stn	Sommers 1979k		not elig
39PN351	09-76	"	historic log cabin	"		more info
39PN352	09-84	"	historic placer mine	"		not elig
39PN353	09-85	"	prehist. lithic scatter	"		not elig
39PN354	09-86	Pactola	prehistoric I.F.	Sommers 1979k	SDARC	not elig
39PN357	09-104	"	Dexter mine claim	Sommers 1979l		not elig
39PN358	09-87	"	historic homestead	Sommers 1979a		more info
39PN359	09-88	"	historic recreation cabin	"		more info
39PN360	09-89	"	"	"		more info
39PN361	09-90	"	"	"		more info
39PN362	09-91	"	"	"		more info
39PN363	09-92	"	"	"		more info
39PN364	09-93	"	historic homestead	"		not elig
39PN365	09-94	"	prehistoric camp	"		more info
39PN366	09-97	"	historic placer mine	"		not elig
39PN367	09-98	"	prehistoric camp	"		more info
39PN368	09-99	"	historic placer mine	"		not elig
39PN369	09-100	"	historic homestead/mine	"		not elig
39PN377	09-116	"	Rockerville Flume (d. # w/PN235)	Cassells 1980c		eligible
39PN378	09-117	"	historic habitation	"		not elig
39PN379	09-118	"	"	"		not elig
39PN380	09-119	"	"	"		not elig
39PN381	09-120	"	"	"		more info
39PN382	09-124	"	Boulder Hill Lookout(USFS)	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39PN393	09-110	Pactola	historic habitation	Cassells 1980a	SDARC	not elig
39PN394	09-111	"	"	"		more info
39PN395	09-122	"	historic miners dugout	"		more info
39PN396	09-123	"	hist. Rockerville Cemetary	"		not elig (is significant)
39PN397	09-112	"	historic habitation	Cassells 1980b		more info
39PN398	09-113	"	hist. industrial site	"		more info
39PN399	09-114	"	historic habitation	"		not elig
39PN400	09-115	"	"	"		not elig
39PN401	09-121	"	miner's cabin	"		not elig
39PN452	09-107	"	historic habitation, R.R.	Lindstrom 1979n, Cassells 1982c		more info
39PN453	09-108	"	historic habitation	Lindstrom 1979n, Cassells 1982c		more info
39PN454	09-106	"	"	Lindstrom 1979n		more info
39PN455	09-109	"	"	"		more info
39PN471		"	historic placer mine	Miller and Crossan 1981b		not elig
39PN480		"	historic log cabin	Miller and Crossan 1981a		more info
39PN481		"	prehist. lithic scatter	"		more info
39PN482		"	historic habitation	"		not elig
39PN483		"	historic log structure	"		more info
39PN484		"	prehist. lithic scatter	"		more info
39PN485		"	historic cabin foundation	"		more info
39PN540	09-125	Pactola	prehist. workshop (camp?)	Cassells 1982c	SDARC	eligible
39PN541	09-126	"	prehistoric I.F.	"		not elig
39PN542	09-128	"	prehist. workshop	"	SDARC	eligible
39PN543	09-129	"	prehistoric I.F.	"	"	not elig
39PN544	09-130	"	"	"		not elig
39PN545	09-131	"	"	"		not elig
39PN546	09-132	"	"	"	SDARC	not elig
39PN547	09-133	"	historic habitation	"		not elig
39PN548	09-141	"	mining camp	Cassells and Miller 1982b		not elig
39PN549		"	historic prospect pits	Sundstrom 1983		not elig
39PN550		"	historic mine holes	"		not elig
39PN551		"	historic claim post/pits	"		not elig
39PN552		"	historic prospect locus	"		not elig
39PN553		"	"	"		not elig
39PN536	09-158	"	historic habitation	Larson, et al 1983		eligible
39PN637	09-157	"	historic mine	"		eligible
39PN638	09-156	"	"	"		eligible
39PN639	09-155	"	"	"		eligible
39PN640	09-150	"	"	"		not elig
39PN641	09-152	"	historic habitation	"		not elig

<u>State Site #</u>	<u>USFS Site #</u>	<u>USFS Distr.</u>	<u>Description</u>	<u>Reference</u>	<u>Where Curated</u>	<u>N.R. Recd.</u>
39PN642	09-151	Pactola	historic mine	Larson et al 1983		not elig
39PN643	09-149	"	historic developed spring	"		not elig
39PN644	09-148	"	historic habitation	"		not elig
39PN645	09-145	"	historic mine	"		not elig
39PN646	09-144	"	historic habitation	"		not elig
39PN648	09-154	"	"	"		not elig
39PN649	09-153	"	historic mine	"		not elig
39PN650	09-143	"	"	"		not elig
39PN651	09-142	"	"	"		not elig
39CU624		"	Spokane Historic District	Cassells 1982b		eligible
39LA167	09-01	"	historic log bridge	Lyon 1979		not elig
39LA168	09-02	"	historic fndn/dump	"		not elig

State Site #	USPS Site #	USPS Distr.	Description	Reference	Where Curated	N.R. Recd.
39LA8		Spearfish	historic dump	McKay 1975a	HPC, Verm.	not elig
39LA13		"	historic cabins,dump	McKay 1975c		more info
39LA15		"	logging camp	Tratebas 1978		more info
39LA16		"	historic cabins	"		more info
39LA20		"	cabin foundations	Tratebas 1977a		more info
39LA21		"	"	"		more info
39LA25		"	historic cabins	Tratebas 1977c		more info
39LA30		"	historic habitation	Dalla 1978		more info
39LA31		"	"	"		more info
39LA32		"	mine shaft	"		more info
39LA33		"	historic habitation	"		more info
39LA34		"	"	"		more info
39LA35		"	"	"		more info
39LA36		"	"	"		more info
39LA37		"	"	"		more info
39LA38		"	ore mill	"		more info
39LA41		"	prehistoric flakes	Haug 1976		more info
39LA42		"	collapsed hist. buliding	"		more info
39LA51		"	prehistoric flakes	Haberman 1977		more info
(39LA51)		"	log watering trough	"		more info
39LA52	08-05	Spearfish	historic foundations	Haberman 1977		more info
39LA53	08-02	"	historic earthen foundat.	"		more info
39LA54	08-03	"	dugout foundation	"		more info
39LA67	11-01		cabin remains	ARR #SP-1-77		more info
39LA80	11-02	"	historic foundation,dump	Bury 1977d		more info
39LA81	11-03	"	"	"		more info
39LA82	11-07	"	cabin remains	Bury 1977a		more info
39LA83	11-06	"	house foundation,grave	"		more info
39LA84	11-05	"	cabin foundation,dump	"		more info
39LA85	11-04	"	prehistoric camp	"	SDARC	more info
39LA87	11-54	"	historic cabin	Bury 1980a		more info
39LA88	11-53	"	cabin foundation	"		more info
39LA96	11-46	"	historic cabin	Bury 1979		more info
39LA97	11-47	"	"	"		more info
39LA98	11-48	"	mining settlement	"		more info
39LA99	11-49	"	prehist. lithic scatter	"		more info
39LA100	11-50	"	historic cabin	"		more info
39LA102		"	prehistoric flakes	Bury 1980b	SDARC	more info
39LA103		"	prehist. knapping stn	McKay 1975b	"	more info
39LA104		"	prehistoric camp	McKay 1975c	"	more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39LA105		Spearfish	prehistoric camp	McKay 1975c	SDARC	more info
39LA106		"	prehist. lithic scatter	Tratebas, Noms 1975	"	not elig
39LA107		"	prehistoric camp	"	"	not elig
39LA109		"	prehistoric i.f.	Tratebas 1977a	"	not elig
39LA110		"	prehistoric camp	"	"	more info
39LA112		"	prehistoric camp	Tratebas 1977c		more info
39LA113		"	prehistoric i.f.	"	"	not elig
39LA114		"	"	"	"	not elig
39LA122		"	prehistoric i.f.	Tratebas 1978	"	not elig
39LA123		"	"	"	"	not elig
39LA124		"	"	"	"	not elig
39LA125		"	"	"	"	not elig
39LA126		"	"	"	"	more info
39LA127		"	"	"	"	not elig
39LA128		"	"	"	"	not elig
39LA129		"	"	"	"	not elig
39LA130		"	"	"	"	more info
39LA131		"	"	"	"	not elig
39LA132		"	"	"	"	not elig
39LA133		"	"	"	"	not elig
39LA134		Spearfish	prehistoric i.f.	Tratebas 1978	SDARC	not elig
39LA135		"	"	"	"	not elig
39LA137		"	"	"	"	not elig
39LA138		"	"	"	"	not elig
39LA139		"	"	"	"	not elig
39LA140		"	prehist. knapping stn.	Dalla 1978		more info
39LA141		"	prehistoric i.f.	"		not elig
39LA142		"	prehistoric camp	"		more info
39LA143		"	"	"		more info
39LA144		"	prehistoric i.f.	"		not elig
39LA145		"	prehistoric camp	"		more info
39LA146		"	"	"		more info
39LA150	11-32	"	historic townsite	ARR #SP-1-77		more info
39LA151	11-34	"	mine shaft and cabins	Bury 1977c		more info
39LA152	11-35	"	historic cabin, dump	"		more info
39LA153	11-36	"	historic log cabins	"		more info
39LA154	11-38	"	mine shaft and foundation	"		not elig
39LA155	11-39	"	mine and habitations	"		more info
39LA156	11-40	"	log cabin	"		more info
39LA157	11-41	"	ore mill	ARR #SPF-10-77		more info

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
39LA158	11-43	Spearfish	storage shed	ARR #SPF-10-77		more info
39LA190	11-52	"	industrial site	Bury 1979		more info
39LA211	11-20	"	historic (Dutch Flats)	Vagstad 1978, Gillihan 1976		more info
39LA212	11-21	"	cabin, privy, dump	Vagstad 1978		more info
39LA213	11-22	"	prehist. lithic scatter	"		more info
39LA214	11-23	"	"	"		not elig
39LA215	11-24	"	prehist. i.f. (Duncan pt)	"		not elig
39LA230	11-56	"	historic grave	Bury 1981b		more info
39LA231	11-55	"	prehist. lithic scatter	Bury 1981a		more info
39LA241		"	historic dugout	Tratebas 1982		more info
39LA242		"	"	"		more info
39LA243	11-57	"	prehist. knapping stn.	Cassells, Miller 1982a		more info
39LA252	11-103	"	prehistoric camp	Legard, Miller 1983		more info
39LA253	11-104	"	historic dump	"		not elig
39LA254	11-105	"	prehistoric camp	"	SDARC	more info
(39LA254)	11-105	"	historic bridge	"		more info
39LA255	11-106	"	historic dump	"		not elig
39LA256	11-107	"	prehist. lithic scatter	"	SDARC	not elig
39LA262	11-102	"	prehist. lithic scatter	"		more info
39LA263	11-101	"	prehistoric camp	"	SDARC	more info
(39LA263)	11-101	"	historic dump	"		more info
39LA264	11-100	"	prehist. lithic scatter	"		not elig
39LA265	11-109	"	"	"	"	not elig
39LA269	82-IF-8	Spearfish	prehistoric i.f.	Legard, Miller 1983		not elig
39LA270	82-IF-9	"	"	"		not elig
39LA271	82-IF-11	"	"	"		not elig
39LA272	82-IF-13	"	"	"		not elig
39LA273	82-IF-15	"	"	"		not elig
39LA274	82-IF-17	"	"	"		not elig
39LA286	82-IF-5	"	historic i.f. (bottle)	"	SDARC	not elig
39LA287	82-IF-6	"	prehistoric i.f.	"		not elig
39LA288	82-IF-7	"	"	"		not elig
39LA299	11-131	"	historic cabin remains	Lindstrom 1983		more info
48CK99	11-44	"	prehist. lithic scatter	Bury 1978a		more info
48CK100	11-45	"	historic log foundation	"		not elig
48CK411		"	mining placer	Larson, Tibesar 1983		eligible
48CK451	11-58	"	prehist. lithic scatter	Cassells 1982b		not elig
48CK452	11-59	"	prehistoric quarry	"	U. of Wyo	eligible
48CK453	11-60	"	prehist. lithic scatter	"		not elig

State Site #	USFS Site #	USFS Distr.	Description	Reference	Where Curated	N.R. Recd.
48CK454	11-61	Spearfish	prehistoric quarry	Cassells 1982b		eligible
48CK455	11-62	"	historic hunting blind	"		not elig
48CK456	11-63	"	prehist. lithic scatter	"		eligible
48CK457	11-65	"	prehistoric camp	"	U. of Wyo.	eligible
48CK458	11-66	"	prehist. lithic scatter (McKean)	"	"	not elig
48CK459	11-67	"	prehistoric quarry	"		eligible
48CK460	11-68	"	historic farmstead	"		not elig
48CK461	11-71	"	prehist. lithic scatter	"	"	not elig
48CK462	11-72	"	"	"		not elig
48CK463	11-90	"	historic homestead	Larson, Tibesar 1983		eligible
48CK464	11-96	"	probable(?) mine	"		not elig
48CK465	11-95	"	mine	"		eligible
48CK466	11-94	"	"	"		eligible
48CK467	11-93	"	mining association	"		eligible
48CK468	11-92	"	mining cabin	"		eligible
48CK469	11-89	"	mine buildings	"		eligible
48CK470	11-87	"	cabin and mine	"		eligible
48CK471	11-88	"	house and mine	"		eligible